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MUSEUMS OF EDUCATION

THEIR HISTORY AND USE

By BENJAMIN R. ANDREWS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY, IN THE FACULTY OF PHILOSOPHY, COLUMBIA UNIVERSITY

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MUSEUMS OF EDUCATION

CHAPTER I

INTRODUCTION

I. THE MODERN MUSEUM

We are finding it increasingly useful to collect in permanent storehouses and exhibition halls objects of significance in human affairs. The art museum was the first modern expression of this idea; natural science collections have multiplied in recent decades; and the objective materials of industry, commerce, and the various fields of thought and activity are now often brought together for useful ends. The object aimed at is to bring to a focus these significant things, as books are brought together in libraries, and accelerate the transfer of general experience and knowledge to the individual. Library and museum, indeed, serve one purpose and it is accident, or at most, convenience, that has made them separate institutions, the one conserving the bulky material things of knowledge and the other protecting the convenient symbolic records in book form. The obvious work of the museum is to provide objects for public inspection; but since it deals with objects which as knowledge are often ambiguous and on a lower level of elaboration than printed books, its staff must include scientists able to put meanings upon objects, arrange them in orderly system for observation, and write systematic accounts of them; hence, the association of laboratories with museums, and the latters' encouragement of original studies both by their staff and by outside scholars. In other words, museum

economy involves not only exhibition, but scientific research and study; and for this double purpose, the modern museum, theoretically at least, administers "study collections" and "exhibit collections." The "study" division includes material still unclassified, but refers especially to the long series of systematic collections, of interest only to the scholar for reference and so best arranged in compact form with working space at hand; the exhibit collections are those arranged for popular inspection and they vary from systematic collections and special groups showing historical and scientific relationships, which prove thought-provoking to the "educated visitor," to striking unit-presentations of one sort or another, which are attractive and intelligible to the "average visitor" who is impelled by curiosity and is simply seeking mental recreation.

The final justification of museum collections goes back to the utility of objects versus symbols-of-objects in knowledge, and that cannot be determined here. Certain utilities of objects, however, obviously cannot be served by the second-hand symbolism of books. On the one hand, in gaining new knowledge, objects are absolutely necessary at the sources of our ideas of the material world; and science often requires that objects so studied be preserved as a record of results and to permit a repetition of the investigation. On the other hand, in transmitting knowledge, objects are often useful in adding clearness to ideas, as illustrated by the use of the objective in children's education, or by the adult's recourse to the object in place of a verbal or pictorial description; the objective also adds an appeal to the feelings and so possesses a dynamic power for action—for example, contrast the force of an argument for schoolroom decoration with the effect of an inspection of materials for such decoration, in securing action from a school committee. At any rate, objects must always underly books as the guarantee of knowledge which concerns the material world; and in transmitting knowledge, despite the convenience of books, recourse will often be had to the object for illustration and effect.

The collections of a museum are specialized according to its particular aim. Objects of a common significance, as related to the fine arts, to natural science or some division of it, to anthropology, to industry, to medicine or some other art, are brought

together and form a museum illustrating the special field concerned. Within the museum, systematic classification—scientific, historical, or otherwise—proceeds further and makes the objects available for the purpose set, whether of inspection or of research. This general statement may serve to emphasize the fact that the museum is not as it was once, a confused array of objects brought together as fancy or curiosity dictated, but that it is coming into new efficiency by a limitation of the field of the individual museum, and by attention on the one hand to its unique scientific purpose of organizing knowledge which has not yet reached the level of the compiled book, and on the other to the arrangement of exhibits specially designed for popular instruction and enjoyment.

II. The Museum of Education

The educational museum, or museum of education, of which this study treats, is one of these specialized museums, which includes collections solely of objects related to education and which is administered primarily to be of service to persons engaged in education. Such museums first appeared about half a century ago, and probably a hundred or more of them have been organized in various parts of the world. Recently, renewed interest has been shown in the educational museum in this country, as, for example, in the movement to establish such museums in the cities of St. Louis and New York, and in certain states, and in the tendency to form collections of similar material in certain American universities. An attempt to bring together experience regarding these museums seems therefore timely.

We may define the educational museum as an institution that contains objective collections which have an illustrative, comparative, or critical relation to the schools and to school work, or which are concerned with education as a profession, a science, or a social institution. The mention of two confusions in the use of the term "educational museum," will make its proper significance more clear. A common statement is that some great public museum, like the Victoria and Albert Museum in South Kensington, is an "educational museum"; the reference in such a case is plainly to the general educational aim of the museum, not to its contents, which are in no way directly connected with

education. In the sense that it is exerting an educational influence, any museum might be called "educational." Clearness is therefore served by keeping the name "educational museum" for specialized collections of objects related to education and by remembering that it is sometimes used as a descriptive term, but not accurately as a title, for general museums of science, of art, and for other museums which are educational in purpose.

The other confusion in terms is more serious. Museums located in a school or organized as an adjunct to a system of schools, and aiming to aid school instruction directly and immediately, are sometimes called "educational museums." Their contents are certainly "objects related to education"; but since their collections are designed as a supplementary agency in actual work, they may better be called "school museums." They can be sharply distinguished from the "educational museum" of which this study treats: the school museum is itself didactic, it exists for the pupil directly; it includes only the means of teaching, that is, the apparatus, appliances, and materials of teaching brought together for use in actual instruction. Distinguished from the school museum is the type of museum which is related to education as an institution, a profession, or a science, rather than to actual teaching; which exists not for the pupil but for the teacher, the person interested in school administration, the student of education, and the general public; the collections of which illustrate not only the means and appliances of education (and these not to be used in teaching but to be studied and considered for themselves) but in addition, it may be, the methods of education, its results, its organization and administration, its housing and equipment, its history, and whatever other phases of education may find suitable expression in objective exhibits. This then is a museum of education or an educational museum: a collection of objects systematically arranged according to museum methods, which are intended to advance education, whether in the training of teachers and their professional improvement, or by aiding those charged with the administration of schools, or by assisting in the researches of the scholar or by enlightening the public. Its service is epitomized in this: an educational museum educates regarding education. This study deals with educational museums, and more than once it will be

necessary to recur to the distinction pointedout between the school museum, containing collections for actual use in teaching, and the educational museum, representing education in its institutional, professional, and scientific aspects.

III. Outline of Problem

This study presents, first, brief references to the educational museums and permanent exhibitions of the United States (including one Canadian museum), together with a particular sketch of one such museum with which the writer has been connected. This first section is based on detailed data regarding American museums of education which form a separate study as yet unpublished. The second part of the present study is a survey by tabulated information of the chief educational museums of the world, outside of the United States. Its third and concluding section is a discussion of the educational museum, and a suggested program for its development.[1]

[1] Acknowledgment should be made at the outset of the writer's debt in the second part of the study to the monographs by Rektor Hübner, Director of the Breslau Educational Museum, on the German and the non-German educational museums (see bibliography). The writer began to collect information from printed sources and by correspondence in 1904, intending to write historical accounts of educational museums at home and abroad. The work was considerably advanced when Hübner's studies appeared. It was then determined to utilize Hübner's data and that gathered by the writer in sketching the educational museum movement as a whole. This forms part two of this study.

CHAPTER II

EDUCATIONAL MUSEUMS IN THE UNITED STATES

A brief statement will be made in turn of (1) the educational museum in connection with the United States Bureau of Education; (2) state educational museums of the United States and the Provincial Educational Museum at Toronto; (3) city educational museums of the United States; (4) university educational museums, with a statement at length of the museum of Teachers College, Columbia University, New York City; and (5) miscellaneous educational museums.

I. Museum of United States Bureau of Education

In the discussion preliminary to the establishment of the United States Bureau of Education at Washington, a museum was suggested as one feature;[1] "a library and cabinet of education" was proposed by the first commissioner, Henry Barnard;[2] the second commissioner, General Eaton, established the library and repeatedly sought special government support for the projected museum which he conceived of as related to a possible chain of other educational museums in the capital cities and large centers of the country;[3] the exhibits, domestic and foreign, received after the Centennial Exposition of 1876, began the museum, and through similar and other accessions it had grown to several thousand items from which some 2500 objects and series were culled for exhibit at the Bureau's building in 1886;[4] additional accessions soon crowded the rooms beyond resemblance to a museum, and in 1906 the objects were all put into storage to await suitable quarters and sufficient funds for organizing a museum proper to the Bureau. Judged by fugitive data,

[1] National Teachers Association, *Proceedings,* etc., 1865, Barnard, Hartford, 1865, p. 299 ff., especially p. 307.

[2] Barnard's *American Journal of Education,* XVIII, 1869, p. 192.

[3] Report of Commissioner of Education, Washington, 1870, p. 7. Other reports of Commissioner Eaton, *e. g.,* his last: Report 1884-85, pp. cccxii-cccxvii.

[4] Report, 1886-87, pp. 11-12.

the collections were unsystematic; appliances for instruction were more prominent than samples of pupils' work; secondary education was represented more than elementary, and especially numerous was the apparatus for the teaching of chemistry and physics. The Bureau has made significant exhibits at many international expositions; but these have not been put on permanent display at Washington. The educational library of the Bureau numbers about 60,000 volumes, including 40,000 books on education, and is now growing into new importance.[1]

II. State Educational Museums

A state exhibit of the schools and their work has been established at the capitals of at least ten of the American states, although there is at present no state educational museum in the sense of a separate institution carrying on aggressive work. New Jersey, Pennsylvania and Louisiana have included an exhibit of the state's educational resources as an integral part of the state museum of arts and sciences which has been established at many of the American state capitals; and of these the New Jersey educational exhibit dates from 1895 and in part goes back to 1876; Massachusetts, from 1894 to 1899 had as a separate institution a state educational museum, but it seems to have failed from lack of funds, quarters and wise plans; the New York State Education Department has a state educational exhibit in the capitol corridors at Albany, and the South Dakota Historical Society has a similar exhibit at Pierre; there are also small exhibits in connection with the office of the State Superintendent of Education at Charleston, West Virginia; Columbia, Missouri; Bismark, North Dakota; and Salem, Oregon. The Education Department of Arkansas has planned such an exhibit; and Maine has a statute provision by which a collection of educational objects and books may be made if at no expense, and this has resulted in a text-book collection. All these exhibits arose through an attempt to make permanent the state's educational exhibit displayed at some exposition—four following the Chicago Exposition of 1893; one, the Buffalo Exposition of 1901; and five, the St. Louis Exposition of 1904. In general, these exhibits consist

[1] Letter, from Commissioner Harris, May 10, 1906; and personal information, from Bureau, March 1907.

of samples of pupils' work, especially written material, art and manual training samples; photographs of school buildings, interiors, and school groups; statistical charts; and in some cases, collections of apparatus and appliances for teaching, although this latter class of exhibits is less prominent than in museums abroad. Nineteen of twenty-eight states answering report, in addition to the state collections just mentioned, more or less extensive educational exhibits of a permanent nature in one or more normal schools or colleges in the state, formed apparently to aid in the professional training of teachers. Of forty states answering, thirty-six report that temporary educational exhibits of pupils' work are held at teachers' institutes, association meetings, and on other similar occasions, thus evidencing a sort of temporary museum activity. Twelve states report educational libraries: in five, as part of the state library—Massachusetts, New York, Pennsylvania, North Dakota, and Washington; in seven, at the office of the superintendent of public instruction—Maine, Rhode Island, West Virginia, Ohio, Illinois, Wisconsin and Utah. The New York state educational library is the largest, with about 10,000 volumes, and those of Illinois and Rhode Island are noteworthy.

The Educational Museum at the Ontario Provincial Education Department, Toronto, must be credited as the first educational museum of the world. Its beginning dates from 1845 when Edgerton Ryerson, Provincial Superintendent of Education, then in Europe, was granted £100 to purchase samples of "school models," copies of which he had seen in American schools and which he thought Canadian manufacturers could duplicate.[1] The collection of school aids grew and became the basis of the "Depository" or government sales-bureau of school requisites, textbooks and library books, established in 1850, and which continued until 1881.[2] Meantime, in 1853, the "Canadian Museum" was authorized and the educational collection seems to have become one of its sections when it was opened in 1856;[3] indeed, this provincial museum of arts and sciences was long known in its entirety

[1] Documentary History of Education in Upper Canada, Toronto, V, 237-249, especially 241.

[2] *Ibid.*, X, 190-201.

[3] *Ibid.*, XII, 97-99 and 100-137; XIII, 191-192; X, 169.

as the "Educational Museum," until 1897, when the name "Provincial Museum" was assumed. At about the latter date, the last purely educational exhibits were retired from the museum. The educational collections at Toronto realized certain important results: they distinctly improved the teaching equipment of the schools of the province both through force of example and by the direct agency of the government in selling to the schools duplicates of the exhibits shown; they led, within ten years, to Canadian manufacture of teaching materials, school desks, and other requisites, so that the "depository" and sales-bureau of the government could later be dispensed with; they influenced American schools through the visits of various American teachers, especially through the stimulus given Principal Sheldon of the Oswego Normal School who inspected the Toronto collections about 1860 and as a consequence initiated the "Oswego movement," so-called, in American education.[1] Whenever educational museums are mentioned, the museum at Toronto and the wisdom of Edgerton Ryerson who conceived this first educational museum may well be held in honor.

III. City Educational Museums

St. Louis organized a combined educational and school museum after the Exposition in 1904, which while making rapid progress as a central loaning bureau and exhibit room for numerous and varied collections of illustrative material for use in teaching, has also maintained exhibits of local education and of foreign schools for the professional benefit of the city's teachers.[2]

New York City projected an educational museum in 1905 and later plans were drawn up which included a permanent exhibit of the work of local schools, a display of schoolroom equipment

[1] U. S. Bureau of Education, Circular No. 8, 1891, p. 63; "Historical Sketches Referring to the first Quarter Century of the State Normal and Training School at Oswego, New York," Oswego, 1888, pp. 3, 138; Barnard's *American Journal of Education*, XII, 642.

[2] *Public School Messenger* (Official Publication of the Department of Instruction), St. Louis, Sept. 28 and Dec. 29, 1905; Jan. 18, 1907. Circular, "Department of Instruction, Educational Museum, St. Louis, April, 1906." Fifty-first Annual Report of Board of Education, St. Louis, 1905, St. Louis, 1906, p. 256.

and illustrative apparatus and material, an historical exhibit, selected work from schools of other cities, selected seasonal exhibits to illustrate parts of the course of study in the city schools —all lines for the professional betterment of teachers—and collections of slides, stereoscopic views and pictures for loan. The exhibit of local education is ready at hand in the St. Louis Exposition exhibit, and a beginning with the slide collection has been made, but further progress awaits the securing of suitable rooms.

In two other cities, New Haven, Conn., and Reading, Pa., some beginnings toward a museum of local education have been made and in Louisville, Ky., one has been considered. In some twenty-five other cities (of the 130 cities over 10,000 in population from which information was secured) there seem to have been in existence in 1906 less extensive permanent exhibitions of local education, and in seventeen other cities there has been manifested some evidence of interest in such a permanent exhibit. Returned material from the St. Louis or Portland Exposition was influential toward the permanent local exhibition in twenty-seven of the forty-seven cities referred to. These local exhibitions seem to be composed almost exclusively of samples of pupils' work from local schools, and these represent present conditions only; in the case of New York and St. Louis, historical sequences and comparative exhibits from outside are contemplated.

The New York museum is to be located in the Board of Education building; the St. Louis museum has quarters in two school buildings; of the other city exhibitions, nine are in school buildings; thirteen, in the office of the superintendent of schools; three, in the rooms of the board of education; two in the public library; two, in the city museum; one, in the department of school supplies; and in the remaining cases the location is not yet determied upon, or was not learned. Of 125 cities answering, 105 report that temporary exhibits of local school work are held each year; and in several cases, notably Syracuse, Kansas City and Grand Rapids, by virtue of its general character and central location, this annual exhibit approaches in significance to permanent museum work.

Of 126 cities replying, eighty-eight (69.8%) report the local public library as making an effort to provide an educational library, or at least educational books, for teachers; in seventy-

nine cities (63.2%) there is some sort of an educational library at the office of the superintendent of schools or in connection with the public schools; putting both items together, of the cities reporting, all but fourteen (89%) report at least the nucleus of an educational library either as part of the public library or in connection with the schools. Data about the latter only was secured: of seventy-four, eleven contain less than 100 volumes; twenty-eight have from 100 to 500 volumes; fifteen from 500 to 1000 volumes; only 20 (or 26%) have over 1000 volumes. The largest is the notable Philadelphia Pedagogical Library, of 8300 volumes.

IV. Educational Museums of Universities

The departments of education in several American universities have considered collections representing education as necessary, along with educational libraries, in furnishing illustrations of fact and theory for courses of instruction and objective source material for graduate research study. Six universities may be mentioned particularly: California, Clark, Harvard, Illinois, Indiana and Teachers College, Columbia University.

1. *The University of California* (Berkeley) has a collection based on the state educational exhibit at the St. Louis Exposition which includes samples of pupils' work, teaching equipment, and illustrations of school architecture.

2. *The Clark University* collection (Worcester, Mass.) includes samples of teaching equipment and exhibits of school hygiene and school architecture, secured to illustrate courses of instruction. More recent additions have been: "(*a*) things made by children spontaneously in wood, paper, iron, tin and what not; (*b*) children's drawings; and (*c*) far more important, illustrative material in the form of diagrams and charts, of which our collection is pretty large." Of these (*a*) and (*b*) are records of educational investigations. It should be added that the collections are not organized as an exhibit.[1]

3. *Harvard University* (Cambridge, Mass.), while not maintaining a museum, possesses "exhibits prepared by Massachusetts towns for expositions," and in addition "a considerable collection

[1] Clark University, Third Report of the President, April, 1893, pp. 136-140. Letter from G. Stanley Hall, President, April 13, 1907.

of pupils' work from individual schools which supplies illustrative material for the use of our students. This material is renewed from time to time; as fast as it becomes historical it is our intention to remove it to the historical section such as it is."[1]

4. *The University of Illinois* (Champaign), about 1900, began plans for a "pedagogical museum and library," and by 1906 the museum included: (1) apparatus and requisites for the teaching of drawing, nature study, object lessons, manual training and physics; (2) samples of pupils' work in manual training, drawing, writing, language work, arithmetic and geography; (3) plans and photographs of school buildings; (4) blanks and administrative forms from 100 city school systems; (5) other miscellaneous exhibits. The following statement regarding the purpose of such a museum is significant: "One great need of the prospective teacher is to become familiar with the furniture of his profession. In his preparation he has used apparatus more elaborate and expensive than he can hope to secure for his school use, and he is unfamiliar with any other. In the case of text-books and general supplies, he is ignorant of much that is good. By such a collection these defects in preparation could be remedied."[2]

5. *Indiana University* (Bloomington), in 1895-6, started a "pedagogical museum" which was designed "to include text-books, children's literature, all kinds of teaching apparatus, samples of school work, records of pedagogical investigations, charts exhibiting facts in the history of education and comparative pedagogy, school furniture, building plans and building materials and instruments for anthropometric and school hygienic tests. It was to be international. We have made beginnings in all these lines but our collection is not extensive. The project has been at a standstill as far as the collection is concerned for three years." The director of the department of education writes further: "As far as courses of instruction are concerned, the use of this material is something like that of a reference book, occasionally very valuable. It is not so important as the library or the practice or model school, which might be regarded as the

[1] Letter from Professor Hanus, Harvard University, April 17, 1907.

[2] Letters from Edwin G. Dexter, Head of Department of Education, University of Illinois, 1906 and 1907. Circular letter dated "Urbana, Illinois, March 5, 1902." Register, University of Illinois, 1905-6.

best part of the museum; but it is a valuable supplement. It supplies a real need and should be established by both university departments and normal schools as soon as the library and practice school are practically efficient."[1]

In all these universities there are, besides educational libraries, collections of printed educational material, as courses of study, catalogues, and text-books, which may be regarded as proper museum material, whether located in a museum or library. Still other universities, among them Cornell University, University of Alabama, University of Iowa, University of Utah, and University of Idaho, have made some beginnings toward museums of education. There remains the description at length of the museum at Teachers College, Columbia University, and following this a brief section on miscellaneous educational museums of the United States.

6. *Teachers College, Columbia University*

The Educational Museum of Teachers College dates from the "Children's Industrial Exhibition" which was held in 1886 by the "Industrial Education Association," an organization for promoting manual and industrial education, the forerunner of the New York College for Training Teachers (1888), which in 1891 became Teachers College. The Children's Industrial Exhibition of 1886 had two purposes: to call attention to the whole subject of manual training, and to ascertain the kind of manual instruction already being given. Exhibits were assembled from seventy different cities and institutions, including ten large city systems. There were seven thousand visitors; excursions of superintendents and teachers came from nearby cities; several foreign educators studied it; and the metropolitan press showed keen interest—illustrated articles were printed, and there was extensive editorial comment commending the exhibition and inquiring why manual work had not yet been introduced into the New York schools. The *New York Sun* said editorially a few days later: "The society (Industrial Education Association) did more for the accomplishment of its purpose by its recent exhibition of the practical fruits of manual training than it can hope to do by any

[1] Letter from Indiana University, Department of Education, February, 1906, and letter from Professor John A. Bergström, April 12, 1907. *Indiana University Bulletin*, May, 1904, p. 134.

amount of talking." The exhibition committee notes other specific results: "The association has been asked to train teachers of manual training . . . a wholesome reflex influence is reported in the cities which sent exhibits"; and "a permanent museum of articles illustrating the range and methods of industrial education is also projected." The exhibition cost $2,488.53, which was met partly by admission fees and partly by subscriptions.[1]

From the Children's Industrial Exhibition until the present time, the museum idea has not lapsed at Teachers College. Its history divides naturally into two parts: before 1899, the year when the first curator was appointed, and since 1899.

I. The Museum, 1886-1899. During this first period we will treat of the museum under four topics: A. The first museum room and its contents; B. Portable exhibits; C. Annual exhibitions; D. Special exhibitions.

A.—The First Museum Room: The Industrial Education Association in occupying its first building, 9 University Place, New York, in the fall of 1886, set aside a large room on the second floor for the projected museum. Here certain exhibits from the Children's Exhibition were placed, including twelve separate exhibits of drawing, together with specimens of carpentry, joinery, lathe and forge work, representing the work of four city systems, and five additional institutions. Other exhibits were secured from time to time. From 1888 to 1891 the annual circular of the college describes the museum as containing "educational materials from manual training and normal schools," and, together with the growing library, as being at the disposal of college students. The value of the museum to the educational public must have been considerable. The college at that time was constantly visited by teachers and school superintendents, and by foreign educators, all interested in the "new education." The young institution, with its needs outstripping its resources,

[1] "Second Annual Report of Industrial Education Association," for 1886, New York, p. 19. "Catalogue, Children's Industrial Exhibition, under the auspices of Industrial Education Association, March 31st—April 6th, 1886, Cosmopolitan Hall, Broadway and 41st St., New York City." [It is noteworthy that of 54 exhibits from near New York, only two were of public schools; of the remaining 52, 32 were charitable institutions. For meritorious work exhibited, there were awarded nine first-class medals, 25 second class, 49 third class, and 86 fourth class.]

could not long assign one of its best rooms to museum purposes; the "museum room" was almost at once demanded for manual training instruction, and was later divided into three class rooms. Still the "museum" persisted. Exhibits were placed about the walls of various class rooms and corridors, and in a limited number of display cases. Its systematic development was hampered by the lack of a curator, and, indeed, by any central responsibility. On the other hand, decentralized efforts resulted in many museums, rather than one museum: each of several departments of Teachers College—manual training, art, domestic science, domestic art, and natural science—gradually collected objective materials to illustrate college courses, samples of pupils' work from schools, types of equipment for teaching, etc. These departmental collections, if gathered together in one place, would, at any time, have made an impressive "museum of education." From 1886 to 1899, and indeed to the present, they represent in good part the museum idea at Teachers College. However, the plan of a central museum room had not been given up. In 1893 exhibits were obtained at the Chicago Exposition as "the nucleus for a museum;"[1] and it was planned to have a special museum room when the new college buildings on Morningside Heights should be occupied, in 1894. Unexpected growth in other departments, however, postponed the provision of a special room until 1901. In summary of the museum itself down to 1899, we may note that a special museum room with growing collections, largely of manual training, was opened in 1886; that while a distinctive room was not long maintained, the collections were kept up; further, that each of several departments developed specialized collections; and, finally, that the plan of a centralized museum of education in the college was simply in abeyance. We will now turn to other features of museum work in this period.

B.—Portable Exhibits: Small exhibits illustrating types of manual and other school work were frequently taken from place to place by professors of the college when called upon to address Boards of Education and public meetings. At one time a small but representative exhibit was arranged in a specially constructed trunk, for ease in carrying. Another form of portable exhibit is illustrated by a display of art work from the Teachers

[1] Japanese and French school exhibits in particular were obtained.

College shown at the convention of the New York State Teachers Association at Saratoga, in 1891, and afterward on request exhibited at Toronto, at Chicago before the Board of Education, and in a large number of other cities.[1] It is to be regarded as a type of many exhibits displayed by Teachers College in its early years at teachers' associations and on other public occasions. Such portable exhibits might be called museum extension work.[2]

C.—Annual Exhibitions: An annual exhibition of Teachers College and its schools, dating almost from the first year and continuing to the present, is held for one or more days at the end of the school year in May or June.[3] During these days all departments and schoolrooms are open to public view; displays of pupils' work are arranged; demonstrations of actual teaching are sometimes given; and teachers and professors are on hand to explain the exhibits, the courses of study, and other matters to the visitors, who usually number several thousand. For the exhibition days the whole college might be termed an "educational museum."[4]

D.—Special Exhibitions: Under this head are included educational exhibitions arranged for a brief time and representing a limited topic. The first special exhibition was the Children's Industrial Exhibition of 1886, already described. It brought together for comparison exhibits of manual work from different

[1] New York College for the Training of Teachers, Report 1891, p. 6. The particular exhibit represented the relation of manual training and art instruction.

[2] The writer is indebted to John F. Woodhull, Professor of Physical Science at Teachers College since 1888, for information on this and many other points regarding the early history of the museum. With the portable exhibits might be mentioned the exhibits sent to expositions: that at Chicago, 1893; Paris, 1900; Buffalo, Pan-American Exposition, 1901; St. Louis, 1904; and Jamestown, 1907. To Chicago, Teachers College also sent a collection of "home-made physical apparatus," included in the New York State exhibit; after the exposition this exhibit and certain others of Teachers College were placed with other exhibits in the capitol at Albany, New York, as the beginning of the educational exhibit of the New York State Department of Education.

[3] The first documentary reference is to the exhibition of June 10, 1891, in the President's report for that year. The writer is informed that the annual exhibition goes back earlier.

[4] These annual exhibitions are a feature of many American schools, as noted elsewhere.

cities and schools, and it exerted a wide influence for the introduction of manual training into other schools. Nine years later another comparative exhibition was arranged, to accompany a conference on manual training, May 18, 1895. Nine schools besides those of Teachers College contributed exhibits which represented school work from kindergarten through high school. An illustrated report of the conference and exhibition was printed.[1]

In 1897 an "Exhibition of Sewing" was held in New York, which brought together exhibits from twelve foreign countries and a large number of American schools. Teachers College was a member of the association which organized the exhibition; it made an exhibit of its work in common with a large number of other schools; it loaned certain foreign exhibits; and at the close of the exhibition it received many foreign exhibits as permanent accessions to its collections.[2] Since 1901 the museum of Teachers College has held many special exhibitions which are described in a later section.

II. The Museum Since 1899. In 1898 Teachers College entered into an educational alliance with Columbia University and its development since as an advanced professional school of education has been noteworthy, not least so with regard to the museum and the library. The report of the Dean of Teachers College for 1899 made specific recommendations regarding systematic museum work. In October, 1899, the first curator of the museum was appointed; desk room alone at first could be provided, but in 1901 the museum was assigned its present exhibition room and office. Since 1899, and especially since 1901, the museum has been actively developed. With regard to this period we shall treat the following topics: A.—The collections, as regards (1) their nature, (2) their growth, and (3) methods of cataloguing; B.—The functions of the museum, (1) loans, (2) special exhibits, (3) bureau of information, and (4) publications; C.—Management of the museum, as regards (1) staff,

[1] *Teachers College Bulletin*, No. 6, March, 1896, pp. 1-39.

[2] Exhibition of Sewing under the Auspices of the New York Association of Sewing Schools at the American Art Galleries, New York, March 24-27, 1897, New York, 1897, 68 pp. Also, Annual Report of New York Association of Sewing Schools, 1897. New York, 1897. The foreign exhibits were afterwards shown in other cities.

(2) finances, and (3) rooms. There will follow a brief section on the future of the museum, and a general summary; with an appended paragraph on the educational library of Teachers College.

A.—Collections of the Museum: 1.—Their Nature: The museum's contents reflect its peculiar situation. Teachers College possesses a complete system of schools: two kindergartens, two elementary schools, and a high school; and is itself an undergraduate and graduate professional school. Under such circumstances a museum might have been developed either as a school museum for these schools, or as a museum of education for the college.[1] So far the museum has attempted to be both. It would be possible in a way to distinguish among the contents of the museum, those of general illustrative significance which belong to a library of objective illustration for the use of teachers from kindergarten up, *i.e.* a "school museum"; and those of professionally educational interest which form a museum of education. But, were such a division made, the same object would often have to be classed, now in the school museum, now with the museum of education; e.g., certain geography charts of the museum purchased for instruction in the schools of the college are equally available for the professional instruction in methods of teaching in the college, and vice versa. We shall, therefore, disregard this distinction and consider the collections under three heads: photographs, lantern slides, and the remaining collections which are termed "objective collections." The collection of

[1] These two lines of museum work were recognized in the original recommendation of Dean Russell in 1899 (Report of Dean of Teachers College for 1899, New York, 1899, p. 16): "It has long been felt that some systematic way of collecting illustrative materials for supplementing the work of the various departments of the college and the Horace Mann school was a necessity. . . The problem of selecting the right illustrative materials for class use and of making such materials useful has never been satisfactorily solved." This quotation refers to the school museum features of the work.

"An educational museum in connection with Teachers College can also render special service in the training of teachers. . . I refer particularly to the exhibition of materials instructive in the history of education, in the organization and administration of foreign school systems and in the theory and practice of teaching in other countries." This quotation refers to the work of the museum as a museum of education.

photographs includes, in addition to photographs, illustrations cut from magazines, and more expensive carbons, platinums, color prints, etc.; the number on June 30, 1907, was 7596. Of lantern slides there were on the same date, 6195. The objective collections cannot be stated numerically with completeness.

The following tabulation gives a view of the most significant collections classified into groups; the list includes material distributed in the various departments of the college as well as the collections centralized in the museum:

1. Curriculum and methods of elementary and secondary education: Illustrated by typical exhibits of children's work in the Horace Mann schools of Teachers College, which are displayed in the corridor, fifth floor, of school building, which provides 130 square m. of wall space. This exhibit represents current work. Similar exhibit of manual work (school and college) in Department of Manual Training, Teachers College. Lantern slides and photographs representing pupils at work (in museum). Collection of text-books: 3000 in library, and 1500 new text-books in museum. Courses of study and catalogues of elementary, secondary and normal schools in library.

2. Educational administration: Administrative and report blanks from 50 American cities. Reports of American school systems and foreign schools in department and in library.

3. School buildings and equipment: Photographs and slides of school architecture. Set of blue print plans of heating and ventilating system. Blackboards and accessories, 16 items. School desks and chairs, 11 samples. Paper-cutter. Catalogues of school supplies: 200 American, and 200 German, English and French. Samples of school stationery.

4. History of education: Lantern slides, prints. Original daguerreotype of Horace Mann; school desk from Horace Mann's normal school, West Newton, Mass. In library: old school text-books and original editions of educational classics.

5. Foreign school systems: Chinese teacher's equipment, 18 items. German schools: pupils' work, 27 exhibits, 304 items; in addition many maps, charts, etc., listed elsewhere. Japanese schools: 60 exhibits, pupils' work in public schools; technical and art education, 50 exhibits, 243 items; many additional technical exhibits (see Manual Training below); three albums of photos, University of Tokyo and typical schools; thirty framed photographs of schools. English: pictures of school buildings, sewing work. Russian: sewing work. Sweden: Sloyd exhibit from Naas. French: photographs of elementary schools; manual work; sewing. In library, archive of reports and catalogues of foreign schools and foreign school systems.

6. Art: Albums of Cosmos pictures (10); Perry (11). Phoenician glass from Palestine, 50 items. Chinese wood carvings, 98 items. Medallic representations of sculpture, in plaster, 12 cases, 416 items.

Japanese art and architecture, 17 albums. Photographs and slides of painting, sculpture and architecture (in museum); framed pictures in corridors of buildings. Model of Taj Mahal in alabaster. Ten architecture models, details of Alhambra, etc. Fine art textiles, 300 items, in Fine Arts Department. Department has also large teaching collection of plaster casts, still-life models, etc.

7. Biology and Nature Study: In the museum: photographs and slides; mounted birds, 15; charts, 6; herbarium press. In the Department of Biology, the following: microscopic slides; bird skins, 70; charts, 21 on physiology, 50 on zoölogy, and 180 on botany; physiological models, 4; preparations, botanical (ca. 100) and zoölogical (ca. 110); skeletons of animals, 17; apparatus for laboratory, including about 100 large and small microscopes, lantern slides on bacteria and physiology.

8. Domestic art: In departmental museum: primitive devices for carding, spinning and weaving, preparation of cloth, progressive steps shown in Navajo weaving. Representative textiles, in various materials, and from different countries. Domestic handwork, primitive and modern, of various kinds: rugs, lace, embroidery, tapestry, basketry, appliqué, etc. Special collections of national costume (illustrated by dolls), headwear, footwear. Exhibits of pupils' work from trade schools of Italy, Switzerland, France, Belgium, England, and America.

9. Domestic Science: In museum: beef charts, 3; photographs and lantern slides. Domestic Science Department has a collection illustrating cooking utensils and their manufacture; food—sources, kinds, relative value; fuels, etc. Also, teaching collection of charts, floor plans, photographs and slides of cooking laboratories.

10. Geography: Museum has large collection of slides, illustrating travel and geography; 54 maps; 3 relief maps; 47 charts; 13 globes. Samples of pupils' outline and relief maps. Stereoscopes (2) and stereographs. Japanese life, 14 items. Syrian life, 67 items. Philippine life, photographs and lantern slides. Railroad maps, pamphlets, etc., ca. 500 items. The Department of Geography also includes meteorological instruments, wall maps (ca. 75), reliefs and models (15), charts, small maps, collection of geological specimens, and 1000 slides illustrating physiography.

11. History: Anthropological exhibit, loaned by American Museum of Natural History, New York. Casts of prehistoric implements, gift of U. S. National Museum, 71 items. Charts, Greek, Roman, and Medieval history, about 100. Models of knights in armor, 2. Relief map of Battle of Gettysburg. Hensell's models, Greek and Roman life, 25. Maps of Ancient, European and American history, 50. Charts illustrating presidential elections. Photographs and slides.

12. Kindergarten education: Japanese kindergarten (1893), 2 charts. New York public schools, 32 charts. New York Kindergarten Association, 2 items. Pratt Institute, Brooklyn, 2 items. Huntington Kitchen Garden materials, 24 items. Milton Bradley Co., 88 items. E. Steiger & Co., 49 items. Japanese toys, 31. American educational card games (some advanced), 19.

13. Language and literature: German phonic charts for language instruction, 41. Map of scenes in Schiller's *Wilhelm Tell.* Hensell's models for Greek and Latin instruction, 25. Portraits of authors.

14. Mathematics: Museum has samples of Japanese and German pupils' work; a few mathematical models; and 150 lantern slides of history of mathematics, mathematical games. The Department of Mathematics has a remarkable mathematical museum in rooms 211, 212, Teachers College. Its collections include American and foreign models, apparatus and materials for mathematical instruction in kindergarten, elementary and high schools. In addition the private collections of Professor David Eugene Smith are displayed in room 212, and are at the disposal of students. These include 1600 portraits, 2000 autographs, and 150 medals of mathematicians; exhibits showing the development of mechanical mathematics from earliest forms to modern reckoning machines; mathematical manuscripts of the last 200 years; 500 mathematical books of earlier date than 1800; and a mathematical library of 7000 volumes and 5000 pamphlets. These private collections, together with the collection of apparatus, lantern slides, etc., form a unique museum of the history and teaching of mathematics.

15. Manual Training and Industrial Arts: In museum: wood carvings, Chinese, Japanese, German, Egyptian. Japanese work in lacquer, beaten and cast metal. Printing, 25 items. Commercial products (*e.g.* cocoa manufacture), 5. Pottery (some, fine art; some, archeological), 14 specimens; others in departmental collections, including exhibit of processes in Pueblo pottery. Photographs and slides of industries, applied art, and school work. In Manual Training Department: samples of woods, natural color and finished (also photographs and slides); samples of gums, resins, etc., 22. Models for form and mechanical drawing. Samples of work in various handicrafts, pottery, basketry, weaving, metal work, wood carving. School work: Sloyd from Naas, Sweden, 6 sets of models. Technical school and art school, Tokyo, Japan, 7 sets of samples of work in wood (ca., 200 items); 1, in metal. London public school, 2 sets of work in wood. Boston public schools, 2 sets, work in wood. French elementary schools, 3 sets, work in wood; 1 set, iron. Photographs (200) of manual school work, largely Teachers College and its schools. Exhibit of current work in College and its schools.

16. Natural Science: Department of Physics and Chemistry, in addition to its regular laboratory equipment and apparatus has collection of mechanical toys and home-made apparatus. Lantern slides.

17. Physical education and anatomy: 27 charts.

18. Religious education: Maps of Palestine, Paul's journeys, etc., 12. Relief maps, 2. Syrian life, 67 items. Models of common things, well, sheepfold, etc., 12. Plaster model of temple. Stereograms, 6 sets, 36 in set. Photographs of Palestine, 37. Photographs of mission stations, 140. Lantern slides of Palestine and Life of Christ.

19. Framed pictures and sculptural casts, over 1000 in number, in Teachers College and its schools; catalogued and administered by museum.

2. Growth of these Collections: When a room was assigned the museum in 1901, there were placed in it various collections of photographs, lantern slides, and objects already owned by Teachers College. These collections have been increased each year by purchase and by gifts. The latter have come from individuals, business houses, and schools, and often at the close of exhibitions. A noteworthy gift is the collection of new school textbooks, which is being continually added to by publishers. The nature of the purchases has been determined by demands—the museum has secured those materials for which there was urgent need. This has not permitted systematic development; on the other hand, the present condition of collections is some index of past needs. The accessions have been as follows:

	1903-4	1904-5	1905-6	1906-7
Photographs	240	372	313	...
Prints from magazines	525	1193	350	561
Lantern slides	410	228	279	334
Objective collections	...	300	125	...

The record of objective accessions is not complete; departmental accessions of objects are not included and only important ones in the museum.

3.—Cataloguing: The lantern slides and photographs are catalogued according to the "Dewey numerical classification," which assigns a definite decimal subdivision to each topic; *e.g.*, 914. represents "geography and travel," and its decimal subdivisions, 914.1, 914.2, etc., represent subtopics, as geography of Africa, of Asia, etc. The Dewey group number is written on each slide or photograph, and in addition a "Cutter" alphabetic number; the first brings to any one group all items representing that topic, the second arranges in an alphabetical order the items within each group. The slides and photographs are kept in groups arranged according to the sequence of numbers, the slides in small boxes on shelves, the photographs in filing drawers. In each case guide cards with an index number and name on the tab divide the groups. There is thus a "direct reference" to any photograph or slide by its topical location, without the use of a card catalog; "cross references" will be supplied in time by a card catalogue. The objective collections are numbered consecutively as obtained, and a record of each item is entered in an accession book opposite

its number;[1] this number is written on the object. No classification numbers have yet been used with the objective collection; no satisfactory classification exists, so far as the writer knows, but the Dewey system could be modified to serve the purpose. With increase of collections, classification numbers will probably be added. There is a card catalogue for the objective collections, arranged topically; on the cards, a cipher reference—*e.g.*, "A," "B 21," etc.—tells the storage cupboard or drawer in which the particular object is located. The other museum card catalogues are: one of 500 cards giving reference to the collection of railroad pamphlets, maps, etc.; one of 2000 cards, to the framed pictures on the walls of Teachers College and its schools; and the catalogue of the text-book collections.

B.—Functions of the Museum: There will be presented successively data on (1) the use of collections, (2) special exhibitions, (3) bureau of information, and (4) publications.

1. Use of Collections: During 1904-5, 6851 visitors were recorded as coming to the museum; the actual number considerably exceeded this. Data for other years is not available. The majority came to inspect temporary exhibitions; and there were included many parties of school children who came with their teachers. The museum is open daily from 9:00 to 12:30 and 1:30 to 5:00 o'clock, except Sundays. Saturdays it is open till 12:30 o'clock.

The number of separate objects loaned is indicated by the following table:

	1901-2	1902-3	1903-4	1904-5	1905-6	1906-7
Photographs	522	749	1052	2615	3696	3778
Lantern slides.....	632	2878	4323	6233	4209	4993
Miscellaneous.....	103	479	233	571	434	662
Total by years....	1257	4106	5608	9419	8339[2]	9433

2. Special Exhibitions: The museum has maintained special temporary exhibitions since 1900, of which a nearly complete record follows (complete from 1903-4 on), grouped by years.

[1] The ruled columns in the accession book bear these headings: Accession Number, Date, Nature of Accession, Location, Number of Specimens, How acquired, Cost, Condition, Remarks.

[2] The falling-off is in the use of lantern slides, which had been reduced by a loan collection of 1305 slides returned to its owner.

	Nature of Temporary Exhibit	*Remarks*	*Attendance*
1900-1			
Nov. 19-24	300 pictures for school decoration	Catalogue printed	....
Dec. 1-5	Pictures for school decoration	Catalogue printed	....
1901-2			
Feb. 18-Mar. 1	250 photos, N. Y. City schools		....
Mar. 5-19	Rembrandt etching (71)	Loaned by Felix M. Warburg	....
Mar. 13	Demonstration, weaving Navajo blanket	Arranged by Museum of Nat. Hist.	....
May	Pictures for school decoration and instruction, arranged by museum, but shown in Baltimore		....
1902-3			
Feb. 24-Mar. 9	Japanese color prints, 470	Loaned by Sogo Matsumoto	....
Mar. 5	Demonstration, Indian weaving and silver beating		....
	Mary L. Stone, Home Economics Exhibit	A traveling exhibit	....
1903-4			
Nov. 9-14	Casts of prehistoric implements	Gift, U. S. Museum	....
Nov. 23-Dec. 5	Mathematical appliances and texts. History of mathematics	Occasion of meeting of Math. Ass'ns.	....
Dec. 8-19	Japanese color prints, 400	Loan, Sogo Matsumoto	1200
Feb. 9-16	Illustrative material for teaching	(From museum collections)	....
Feb. 19-Mar. 19	Japanese geography and life	Three lectures accompanying	3000
May 4-14	Kindergarten education	Lecture	....
May 24-26	Domestic Science education		....
1904-5			
Oct. 24-Nov. 26	Religious education	Two conferences	2000
January	National costumes, illustrated by dolls	Dom. Art Dept.	....
February	Text books, French and German		....
March	Japanese craft work, toys, prints, and art work		....

1904-5			
May 12-June 14	Art book bindings	Lecture accompanying	....
May 15-June 10	English, German and Japanese educational exhibits	From St. Louis Exposition	....
June 10-Oct. 15	Pupils' work, Horace Mann and Speyer schools of Teachers College		....
1905-6			
Nov. 1-18	Wall pictures for school instruction	Wachsmuth of Leipsic	674
Jan. 15-Feb. 13	Teaching of design in N. Y. City schools		829
Feb. 12-Mar. 6	School architecture		....
Feb. 26-Mar. 26	Glaciers: photos, maps, specimens	For teaching purposes	....
Mar. 6-20	Book binding	Loaned by Newark, N. J., Library	678
Mar. 26-Apr. 12	Geography teaching: text-books, readers, maps, apparatus		778
Apr. 23-May 10	Prevention of tuberculosis	Loan by Charity Organization Society	5716
May 14-June 13	Children's literature	Bibliography published 1907	1301
June 1-Oct. 15	Pupils' work, Horace Mann schools of Teachers College		....
1906-7			
November	Philippine Islands		....
Jan. 8-Feb. 21	Education in Europe (books, reports, text-books, charts)		....
Mar. 1-30	Text-books on history	For meeting of History Ass'n.	....
Apr. 4-27	Book Plate exhibit	Loans	....
Apr. 30-May 11	Kindergarten education (from museum collection)	For meeting of Kindergarten Ass'n.	....

1906-7			
May 13-23	Japanese prints	Loaned by Arthur W. Dow	....
May 24-25	Rare books on history of education; old text-books	Loaned by Paul Monroe	....
June 17-Oct. 1	Pupils' work, Horace Mann schools of Teachers College		....

Of the forty temporary exhibitions listed, twenty-four were strictly germane to the purposes of a museum of education, and among these the following topics were included: School decoration, 3 exhibitions; pupils' work in schools of Teachers College, 3; school architecture, 2; foreign schools, 2; kindergarten, 2; illustrative material for teaching, 2; and one exhibition each of the following subjects—the teaching of geography, mathematics, history, domestic science, home economics, design, and the French and German languages; and old educational books, religious education, and children's literature. Of the sixteen other special exhibitions, five were on art, five on geography and travel, three on anthropology, one of book plates, an exhibit on tubercular hygiene, and a teaching exhibit on glaciers. The materials for exhibits were often secured as loans from firms and individuals, and in many such cases the exhibits became permanent accessions through the generosity of exhibitors; in several instances collections of the museum ordinarily in storage were placed on public display. The exhibits lasted from one day to four months; but two weeks may be taken as an average duration. The attendance is given for only nine exhibitions; it varies from 600 to 5700. From 600 to 1000 is probably a fair statement of an average attendance. A Japanese exhibition during the Russian-Japanese war attracted 3000 visitors; the tuberculosis exhibition was visited by 4678 school children with teachers, 713 adults, and 315 auditors at lectures, a total of 5716. It is the experience of the museum that such temporary displays, even of collections which are the permanent property of the museum, attract more visitors both from within the institution and from outside, than do unchanged exhibits on display continuously.

3. Bureau of Information: The museum does considerable service as a bureau of information both to faculty and students, and to outsiders who make inquiries in person or by letter. The

former is a matter of daily occurrence, while probably upward of 100 outside inquiries are received annually. The following are typical outside requests answered: photographs and plans of exhibition cases for a school museum; improved forms for record keeping in the office of a superintendent of schools; manufacturers of lantern slides; school desks; many inquiries regarding materials for religious instruction, following the exhibition in that field; blackboards; "what can an art museum do in coöperation with the public schools," etc. Most inquiries are regarding objective equipment, the particular field of the museum. Outside requests for loan exhibits, as for example, of kindergarten work, and school architecture, are significant. The museum might with advantage prepare and loan small exhibits illustrative of various educational ideas. A collection of about 200 catalogues of American firms and publishers, and as many more German, French, and English catalogues, is at hand for reference.[1]

4. Publications: The museum's publications include (1) leaflet programs or guides to certain of its temporary exhibitions; (2) an article on "Possible Values of a School Museum," giving a statement of the work of the Educational Museum with regard to the Horace Mann and Speyer schools of Teachers College:[2] (3) this present monograph; and (4) certain photographs, charts and lantern slides: (*a*) six photographs illustrating cuts of meat, and (*b*) three charts illustrating quarter of beef, etc., both issued and sold by the museum for the Domestic Science Department of Teachers College; (*c*) charts of the Roman Forum and Athenian Acropolis, prepared for the Horace Mann schools, and prints of which are for sale; (*d*) lantern slides illustrating the history of education, and the history of mathematics, and other sets of slides which will be developed. The museum has designed several improved exhibition cases which have been copied in several other museums. Outside calls upon the museum indicate that it might profitably devise and issue commercially additional

[1] What this service might become was well expressed by Dean Russell of Teachers College: "Such a museum might easily become a national, almost an international, clearing house of concrete educational ideas." Columbia University in the City of New York, Teachers College, Dean's Report for 1900, p. 27.

[2] Benjamin R. Andrews, TEACHERS COLLEGE RECORD, May, 1904, pp. 64-74.

forms of illustrative material not now obtainable through the trade.

C.—Management of the Museum: As regards (1) staff, (2) finances, (3) room and equipment.

1. Staff: A curator was appointed in October, 1899, and the office has been filled continuously since, though from 1904 to 1906 the incumbent was officially termed "Assistant in Museum." From June 1903 to 1906 there was a "Supervisor of the Museum," who, while at the same time a graduate student of the university, was charged with the general oversight of the museum, conception of plans and responsibility for their execution. Since 1907 the museum has been under the care of the Adjunct Professor of Educational Administration as "Director," with a person actively in charge as "Secretary."

2. Finances: The museum is supported by Teachers College, of which it is an integral part. The museum has no income from special endowment, though a recent report of the Dean urged the need of a $50,000 endowment. The funds available for the museum are determined annually, and include two items: salaries, and expenses, the latter for increase of collections and running expenses. Bills are paid monthly against this later appropriation, after approval by the head of the museum and by the Dean of the college. In addition to the appropriation, the museum is provided light, postage, stationery, insurance, and janitorial service. The appropriations since 1899 have been as follows:

Year ending July 1	Salaries	Per cent. of total	Expenditures	Per cent. of total	Total
1900	$ 600	50	$ 600	50	$1,200
1901	1,000	62.5	600	37.5	1,600
1902	1,300	65	700	35	2,000
1903	1,560	68.8	700	31.2	2,260
1904	1,900	65.6	1,000	34.4	2,900
1905	1,200	80	300	20	1,500
1906	1,200	80	300	20	1,500
1907	1,700	85	300	15	2,000
1908	1,700	85	300	15	2,000
Totals	$12,160	71.6	$4,800	28.4	$16,960

Of a total expenditure of $16,960 in nine years, $12,160 or 71.6% have gone for salaries and only $4800 or 28.4% for increase

of collections and other expenses. The low percentage of expenses other than salaries from 1905 on is partly explained in that the museum was engaged in organizing its collections, rather than in securing new ones. Nevertheless purchases of museum materials have had to be kept upon a more modest basis than the best interests of the museum dictated. The receipt of generous gifts, *e. g.*, of text-books, has also tended to reduce the amount spent for collections.

3. Rooms: Since 1901 the museum has occupied Room 215, on the second floor of Teachers College, 18.7 x 12.5 meters in size. Its furnishings include seven exhibition cases, with 25.4 square meters of surface under glass. Wall space has been provided by movable screens. Adjoining the display room is an office 4.6 x 6 m., equipped with storage cupboards, desk, etc. In September, 1906, about one third the museum exhibition room was temporarily assigned to other purposes, thus abridging the facilities for exhibition. It is expected that a special library and museum building for the Teachers College will be erected after a few years, when ample room will be provided for the museum collections.

Future of the Museum: The abridgment of the museum in the fall of 1906 is regarded as temporary. The policy for the immediate future calls for the modest increase of the museum's central collections, and especially, it would seem, for the development of small decentralized collections in different departments of Teachers College, particularly in manual training, fine arts, domestic art, domestic science, geography and mathematics. The departmental collections in mathematics are already very extensive; in other departments, less so. These collections are of course designed primarily to supplement instruction, but they can serve simultaneously as museum exhibits, and are ordinarily open to public inspection on request. It is believed that these decentralized collections could be developed with a centralized responsibility for their cataloguing and care, resting upon the museum. A unified system of loans could thus be maintained and when building changes give the educational museum adequate quarters the departmental collections could be amalgamated, except as regards objects of technical significance to single departments. For such objects smaller departmental collections should

always be maintained. The museum building when erected will provide ample exhibition space for permanent exhibits representing the history and present condition of education, as regards school organization, architecture, equipment, curricula, and the methods and results of instruction. It will doubtless provide as well exhibition halls for special exhibitions lasting a shorter or longer time, and planned upon a scale which has not yet been possible.

Summary: The museum was started in the fall of 1886, as a result of the Children's Industrial Exhibition; though a distinctive museum room was not long maintained, the exhibits were continued, and the museum idea found additional expression in portable exhibits, the annual exhibitions, and special exhibitions. Such was its history till 1899. Since 1899, when the first curator was appointed, and especially since 1901, when a special exhibition room was provided, systematic collections of slides, photographs, and objects have been secured, forming what might be termed a combination school museum and museum of education, serving both the professional training departments of the college, and the instruction in the two elementary and the secondary schools, which are connected with the college; the museum has held a series of special temporary exhibitions, and minor functions, a bureau of information and publications, have appeared. Its loans amount to 9000 objects annually, and several thousand visitors a year come to its exhibit hall. It has emphasized special temporary exhibits rather than unchanged displays; and its greatest service is as a loaning library of illustrative materials for Teachers College and its schools.

Educational Library of Teachers College: The Bryson Library, the educational library of Teachers College, in March, 1908, contained approximately 39,000 volumes in its central library of which 20,000 were books on education, and in addition 12,000 educational pamphlets. It is the center of undergraduate and graduate professional instruction, and furnishes the literary material necessary for educational research and investigation. All new educational books are purchased as they appear and constant efforts are made to secure significant educational books now out of print; new school text-books, elementary and secondary, are added, and these number about 3000, domestic and

foreign, in the library, supplemented by 1500 of the most recent American text-books in the museum; an historical collection of text-books is also growing. The collection of educational pamphlets, one of the most valuable sections of the library, includes catalogues, reports, and other publications of universities, colleges, normal schools, academies and other secondary schools; city school reports, programs, and curricula; reports of state, provincial, and national school officials; reports of institutions for defectives, dependents, etc.; the major part of the collection is American, but there are large and representative sections of English, French, and German documents, and less complete collections from other countries; these documents largely furnish the source material for research and investigation. There are about 200 periodicals on file, of which over one half are educational. Besides these educational sections, the library contains "a selected list of general works on philosophy, history, music, literature and science"; and a "collection of books on history, literature, biography," etc., "adapted to pupils in the elementary and secondary school." A selected library of children's literature, to be administered as an exhibit, is a recent plan. The mathematical library of Professor David Eugene Smith, numbering 7000 volumes and 5000 pamphlets, and the historical collection of Professor Paul Monroe, including early text-books and over forty first editions of educational classics, are open to special students. The circulation of the Bryson library in 1906-7 amounted to 28,026 volumes for home use drawn out by 1870 readers; besides, the much greater use within its own rooms. The annual budget for the library is about $7,500, and for eleven years it has averaged 2.25% (mean variation from average, .13%) of the total educational expense of the college.

V. Miscellaneous Educational Museums of the United States

The Department of Geography of the Brooklyn Institute of Arts and Sciences organized an extensive exhibition of the teaching of geography, international in scope, in Brooklyn in 1891, which was afterwards shown in Boston and in New York, and then returned to Brooklyn as a permanent section in the institute's museums.[1]

[1] Catalogue of the Exhibition of Geographical Appliances used in Schools and Libraries . . . Brooklyn Institute, Brooklyn, 1891, 85 pp.

The Sunday School Commission of the New York Diocese of the Protestant Episcopal Church has developed at its office in New York, beginning in 1901, an exhibit of books and requisites useful in Sunday schools, which in 1906 numbered about 14,000 items, not including 8000 sample pictures, and in that year attracted 2500 visitors. The exhibit has been shown at many religious conventions throughout the country, and is designed to aid in the introduction of better teaching materials into Sunday schools. The Commission has issued two useful catalogues based upon the exhibit: "A Complete Handbook of Religious Pictures," and a "Handbook of the Best Sunday School Supplies." Less extensive exhibits of similar character have been made by other diocesan commissions; and a comprehensive exhibit of the same character is being developed by the Religious Education Association, a national organization "to promote religious and moral education," at its headquarters in Chicago.[1]

A private collection which should be mentioned is the historical library of school text-books owned by George A. Plimpton, Esq., of New York City. Its most important items are: manuscripts on arithmetic, about 60; arithmetics and other mathematical text-books, over 2000 copies, including 275 of date previous to 1600; English grammars, 1500; early Latin grammars, 30; school reading books, beginning with horn books, about 1500 copies; books of penmanship, 1600 copies; also geographies and other school books. The library is generously made available to scholars; the most important publication based upon its treasures is "Rara Arithmetica," by Professor David Eugene Smith and Mr. George A. Plimpton.[2]

[1] The *New York Sunday School Commission Bulletin* (quarterly from Dec., 1904). *Religious Education*, the journal of the Religious Education Association, I, 156, 157, Chicago, 1907.

[2] Letter from George A. Plimpton, April 15, 1907.

CHAPTER III

THE EDUCATIONAL MUSEUMS OF THE WORLD

Outside the United States

There have been organized some seventy-five or more educational museums in various countries outside of the United States. The preceding sections show the halting beginnings which have been made here and there in our own country. There is now presented a survey of the museums of other countries. It attempts only to bring out the large features in the situation, to point out important matters of purpose, organization, and function as reflected in the educational museum movement as a whole. Were it possible to give intimate views of each museum, the story would be one of success and failure, often the latter, as worked out under different situations. What is attempted is rather a composite photograph of them all. The reader who wishes individual histories should go to Hübner's admirable monographs on the German and non-German educational museums. On the basis of Hübner's studies, and information secured through correspondence and an examination of first-hand sources, there is here presented an exhibition of data on definite points. Most of the information is given in three main tables and is then presented at length in narrative form often with accompanying tabulated summaries. First, however, there is a study of the purposes of educational museums as stated in what might be termed their charters, or original forms of organization.

It should be said, in preface, that of seventy-four museums considered in the tables, thirty-five are in Germany. Therefore, it has seemed wise to group the data regarding the German museums and throughout the study to make comparisons between the German museums and those in other countries which for convenience are designated the non-German museums. It should be said, too, that more complete information was naturally secured upon some points than upon others. This will make clear why the number of museums "for which data is given" varies for different items.

TABLE I

DIRECTORY OF EDUCATIONAL MUSEUMS

There follows a list of the educational museums of the world outside the United States. The arrangement is alphabetic, first as to countries and then under the name of the respective country the cities in which museums are located are mentioned alphabetically. Under each entry the following items of information are given, always in the same order: name of institution, translation of name into English, year in which founded (with date when closed if the museum has been given up), address of museum, name of director, and hours during which museum is open.

ARGENTINE REPUBLIC

1. Buenos Ayres. Biblioteca y Museo pedagógicos (Educational Library and Museum). 1888. Consejo Nacional de Educación, Rodriguez peña 935. Señor Juan M. de Vedia. 12 to 4:30 daily, and 7 to 10 except Saturday.

AUSTRIA HUNGARY

2. Agram. Hrvatski Skolski Muzej (Kroation Educational Museum). 1901. Hrvatski uciteljski dom. Professor Stephan Basericek. 10 to 12 Sunday and Wednesday.

3. Bozen. Ständige Lehrmittelausstellung (Permanent Exhibition of Teaching Appliances). 1889. Die Städtische Knabenschule. Lehrer Hans Nicolussi-Leck.

4. Budapest. Országos Tanszermúzeum (National Museum of Teaching Appliances). 1877. Franz-Joseph Lehrerheims, Szentkirály-Gasse. Professor Gregor Miklós.

5. Graz. Permanente Lehrmittelausstellung (Permanent Exhibition of Teaching Appliances). 1882. Herbersteinsche Palais, Sackstrasse, 16. Professor Ferd. Walcher.

6. Innsbruch. Ständige Lehrmittelausstellung (Permanent Exhibition of Teaching Appliances). 1888. Knabenschule, St. Nikolaus, Gehsteg. Lehrer Ludwig Ascher. Daily.

7. Laibach. Schulmuseum und ständige Lehrmittelausstellung (Educational Museum and Permanent Exhibition of Teaching Appliances). 1898. School, Komenskygasse 17. Oberlehrer Jacob Dimnik. 8 to 12 and 2 to 5 daily.

8. Prague. Stálá skolni vystava v Praze (Permanent Educational Exhibition). 1890. Jungmannovo nám. Anton Jandl. 3 to 5 Saturday.

9. Vienna (*a*). Permanente Lehrmittelausstellung der Stadt Wien (City Permanent Exhibition of Teaching Appliances). 1872-92. Closed in 1892.

10. Vienna (*b*). Österreichisches Schulmuseum (Austrian Educational Museum). 1903. Haydn's House, VI. Bezirk, Haydngasse 19. Lehrer Friedrick Jukel.

11. Vienna (*c*). Permanente Lehrmittelausstellung der Gesselschaft Lehrmittelzentrale (Permanent Exhibition of Teaching Appliances of Lehrmittelzentral). Projected in 1905. School, Werdertorgasse 6. Franz Tremml.

BELGIUM

12. Brussels. Musée scolaire National (National Educational Museum). 1880. Palais du Cinquantenaire, Rue des Rentiers, 58.

BRAZIL

13. Rio de Janeiro. Museu escolar nacional (National Educational Museum). 1883. Pedagogium, Rua do Passeio, 66. Olavoj ilae.

BULGARIA

14. Sofia. Ucilisten Muzej (Educational Museum). 1905. Ulica Targowska, 8. Dr. Charalampi Ivanoff. Mon., Wed. and Sat. 10 to 12, 3 to 5.

CANADA

15. Toronto. Now, Provincial Museum (Educational Museum). 1845-81. Educational section closed.

CHILI

16. Santiago. Museo de Educación Nacional (National Museum of Education). Casilla 1911. Domingo Villalóhos.

DENMARK

17. Copenhagen. Dansk Skolemuseum (Danish Educational Museum). 1887. Stormgade 17. Fr. Thomassen. Mon., Wed. and Fri. 3 to 5.

FRANCE

18. Chartres. Educational Museum and Library. School, Boulevard Chasles. Thurs. 10 to 12, 2 to 4.

19. Paris. Musée pédagogique (Educational Museum). 1879. Rue Gay-Lussac, 41. M. Langlois.

GERMANY

20. Augsburg. Die Schwäbische permanente Schullausstellung in Augsburg (Swabian Permanent Educational Exhibition). 1881. City Building, Jesuitenstr., F. 409. Oberlehrer Leo Fischer. Daily 10 to 12, 2 to 4; Sunday 10 to 12. Library, Wed. and Sat. 2 to 5.

21. Bamberg. Die Permanente Lehrmittelausstellung in Bamberg (Permanent Exhibition of Teaching Appliances). 1896. Luitpold School, Memmelsdorferstr. Oberlehrer Adam Hennemann. Open on request.

22. Berlin (*a*). Das Deutsche Schulmuseum in Berlin (German Educational Museum). 1876. School, Blumenstr., 63 a. Vorschullehrer A. Rebhuhn. In summer, Wed. 3 to 6; in winter, Wed. 2 to 4 and Sun. 11 to 12.

23. Berlin (*b*). Das Städtische Schulmuseum in Berlin (City Educational Museum). 1877. City Building, Stallschreiberstr., 54. Rektor W. Schumacher, 2nd. Mon., Wed. and Sat. 4 to 7.

24. Bremen. Das Schulmuseum des Bremischen Lehrervereins (Educational Museum of Bremen Teachers' Association). 1902. Rutenhof am Domshofe. Schulvorsteher H. Walter. Wed. 4 to 5; Sun. 11 to 12.

25. Breslau. Das Städtische Schulmuseum in Breslau (City Educational Museum). 1891. Turnhalle, Lessingplatz. Rektor Max Hübner. Wed. and Sat. 4 to 6.

26. Cologne a. Rh. Die Städtische Lehrmittelsammlung in Cöln a. Rh. (City Collection of Teaching Appliances). 1901. School, Telegraphenstr., 31. Lehrer Karl Kaschke. In summer, Wed. 4 to 6; in winter, Wed. 3 to 5.

27. Donauwörth. Die Permanente Lehrmittelausstellung des Cassianeums in Donauwörth (Permanent Exhibition of Teaching Appliances of the Cassianeum). 1876-84. Closed in 1884. J. Traber, Librarian.

28. Danzig. Die Danziger Lehrmittelsammlung (Collection of Teaching Appliances). 1904. School, An der grossen Mühle, 9/10. Lehrer August Krieg. Tues. 12 to 1; Fri. 4 to 5.

29. Dresden (*a*). Das heimatkundliche Schulmuseum in Dresden (School Museum of Local Science). 1905. School, Sedanstr., 19/21. Oberlehrer F. H. Döring. Wed. and Sat. 4 to 6.

30. Dresden (*b*). Das Schulmuseum des Sächsischen Lehrervereins in Dresden (Educational Museum of Saxony Teachers' Association). 1904. School, Sedanstr., 19. Lehrer Oskar Lehmann. Wed. and Sat. 4 to 6.

31. Eisenach. Das Fröbel Museum (Froebel Museum). Theatrestr., 35 a. Eleonore Heerwart.

32. Frankfort. Das Frankfurter Gewerbeschulmuseum (Museum of Industrial Education). 1900-1902. Closed in 1902. H. Back, Städt. Gewerbeschule.

33. Gleiwitz. Das Oberschlesische Schulmuseum in Gleiwitz (The Educational Museum of Upper Silesia). 1905. School, Schröterstr. Rektor Robert Urbanek.

34. Gotha. Das Gothaische Schulmuseum (Gotha Educational Museum). 1889. Reyher School. Lehrer E. W. Rohde. No fixed hours.

35. Hamburg (*a*). Die Hamburger Lehrmittelausstellung (Hamburg Exhibition of Teaching Appliances). 1897. Old schoolhouse, Abcstr., 37. Lehrer G. Vollers. Daily 10 to 4; Sun. 10 to 12.

36. Hamburg (*b*). Die Schulgeschichtliche Sammlung d. Schulwissenschaftlichen Bildungsvereins (School-history Collection of the Association for the Advancement of the School Sciences). 1897. Rented rooms, Fuhlenwiete, 42. Hauptlehrer Fr. Brandt. Not open regularly.

37. Hannover. Das Städtische Schulmuseum in Hannover (City Educational Museum). 1892. Bürgerschule am Kleinenfelde. Rektor Grote. Wed. and Sat. 2 to 4; Sun. 11 to 1.

38. Hildesheim. Das Schulmuseum (die Leverkühnstiftung) in Hildesheim (Educational Museum-Leverkühn Foundation). 1891. School Kaiserstr., 52. Lehrer A. Kreipe. Wed. and Sat. 12 to 1; Wed. 2 to 4.

39. Jena (*a*). Das Thüringer Schulmuseum in Jena (Thuringian Educational Museum). 1889-97. Closed in 1897.

40. Jena (*b*). Das Schaeffer Museum (The Schaeffer Museum). 1900. Volkshaus der Carl-Zeiss Stiftung. Dr. O. Henker. 8 to 11:30; 1:30 to 5.

41 Kiel. Das Schleswig-holsteinische Schulmuseum in Kiel (Educational Museum of Sleswick-Holstein). 1890. School, Waisenhofstr., 4. Rektor E. W. Enking. Sat. 2 to 3.

42. Königsberg. Das Schulmuseum des Königsberger Lehrervereins die Städtische Bibliothek für die Volksschullehrer (Educational Museum of Königsberg Teachers' Association—City Teachers' Library). 1881. Das Altstädtische Gymnasium. Rektor E. Danziger. Wed. and Sat. 4 to 5.

43. Kolberg. Das Schulmuseum in Kolberg (Educational Museum). 1904. Old Artillery Barracks, Domstr. Oberschullehrer K. Lodemann. Wed. 4 to 6.

44. Leipsic (*a*). Die Permanente Ausstellung von Lehrmitteln in Leipzig (Permanent Exhibition of Teaching Appliances). 1865-1875. Closed in 1875.

45. Leipsic (*b*). Deutsches Museum für Taubstummenbildung (German Museum for Deaf-Mute Education). 1895. Room in Pedagogical Central Library, Schenkendorfstr., 34. Lehrer Herm. Lehm. Wed. and Sat. 2:30 to 5; Thurs. 7:30 to 8:30.

46. Magdeburg. Die Lehrmittelausstellung des Lehrerverbandes der Provinz Sachsen in Magdeburg (Permanent Exhibition of Teaching Appliances of the Saxony Provincial Teachers' Association). 1877. A city building, Grosse Schulstr., 1/2. Lehrer F. Henning. Summer, Sat. 3 to 4.

47. Munich. Das Königliche Kreismagazin von Oberbayern für Lehrmittel und Schuleinrichtungsgegenstände in München (Royal Circuit Depository of Upper Bavaria for Teaching Appliances and School Furnishings). 1875. Schrannenpavilion, Blumenstr., 28. Konigl. Konservator J. Berchtold. Daily 8 to 12; 3 to 6.

48. Oldenburg. Das Schulmuseum zu Oldenburg i. Grossh. (Educational Museum). 1900. State Building, Mühlenstr. Rektor G. Lüschen. Wed. and Sat. 3 to 5.

49. Posen. Das Posener Schulmuseum. (Posen Educational Museum). 1897. Kaiser-Friedrich-Museum, Wilhelmsstr. Mittelschullehrer Herm. Schubert. Daily, except Mon., 10 to 2; Sun. 12 to 3.

50. Regensberg. Die Oberpfälzische permanente Kreis-Lehrmittelausstellung in Regensburg (Permanent Circuit Exhibition of Teaching Appliances of the Upper Palatinate). 1880. City School Building. Kgl. Kreisscholarchlehrer A. D. L. Reisinger. No fixed hours.

51. Rixdorf. Das Naturhistorische Schulmuseum der Stadtgemeinde Rixdorf (Municipal School Museum of Natural History). 1897. School Knesebeckstr., 21/23. Gemeindeschullehrer E. Fischer. Sun. 11:30 to 1.

52. Rostock. Das Mecklenburgische Volkschulmuseum in Rostock (Educational Museum of Mecklenberg Common Schools). 1888. Rented rooms, Neuer Markt, 34. Lehrer O. Obenhaus. Sun., 11 to 12.

53. Stuttgart. Die Lehrmittelsammlung der Königlich. Württembergischen Zentralstelle für Gewerbe und Handel in Stuttgart (Collection of Teaching Appliances of the Royal Bureau of Commerce and Industry for Württenberg). 1851. Das Königliche Württ. Landes-Gewerbemuseum. Bibliothekar Hofrat Petzendorfer. Daily 10 to 12 and 2 to 6; Sun. 11 to 1.

54. Wolfenbüttel. Das Landes-Schulmuseum für das Herzogtum Braunschweig in Wolfenbüttel (Provincial Educational Museum of Brunswick). 1892. Without rooms since 1905. Seminarlehrer K. Haberland.

GREAT BRITAIN

55. London (*a*). Educational Section of South Kensington Museum. 1857-1888. Restricted in size 1876-1879; closed 1888.

56. London (*b*). Educational Museum of Teachers' Guild. 1892. 74 Gower St., Guild House. H. B. Garrod, General Secretary. Daily 10 to 6; Sat. 10 to 5.

GREECE

57. Athens. Ἐκπαιδευτικόν Μουσεῖον (Educational Museum). 1905. Rue de l'Académie, 42. D. Bikélas. Wed. and Sun. 10 to 12.

ITALY

58. Genoa. Civico Museo pedagogico e scolastico (City Educational and School Museum). 1881. Lyceum Andrea D'Oria. E. Canevello.

59. Rome. Museo d'Istruzione e d'Educazione (Museum of Instruction and Education). 1874-1881. Was located in school building. Professor Labriola of University of Rome. Two days a week.

JAPAN

60. Tokyo. Kioiku-Hakubutsukwan (Exhibition of Education). 1878. Higher Normal School. T. Kano, Director of Normal School. 9 to 4 except Monday.

NETHERLANDS

61. Amsterdam. Nederlandsch. Schoolmuseum (Dutch Educational Museum). 1877. Prinsengracht bij de Prinsenstraat, 151. E. A. H. van der Heide. Daily 10 to 4 except Sun. and Mon.

62. Hague. Museum ten bate van het Onderwijs (Museum for Advancement of Education). Projected in 1905. Groothertoginnelaan, 28. A. M. Gerth van Wyk.

NORWAY

63. Christiania. Skolemuseum for Kristiania Folkeskoler (Educational Museum for Common Schools in Christiania). 1901. Mollergadens Folkeskole. R. J. Ringdal. Thurs. 6 to 7.

PORTUGAL

64. Lisbon. Museu pedagogico de Lisboa (Educational Museum of Lisbon). 1883. "Escola Rodrigues Sampajo," Poco Nuovo, 7. Fr. Ad. Coelho.

RUSSIA

65. St. Petersburg. Pedagogiceskij Muzej vojennoucebnych zavedenij (Educational Museum of Military Teaching-Establishments). 1864. Public Building, Fontanka, 10. Lieut. Gen. Mavaroff.

SERVIA

66. Belgrade. Skolski Muzej (Educational Museum). 1898. City School Building, Mackenzie St., 40. D. J. Pŭtnikovíc. Daily 8 to 12. 2 to 5; Sun. 2 to 5.

SPAIN

67. Madrid. Museo pedagógico nacional (National Educational Museum). 1884. Escuela Normal Central de Maestros, Calle de Daoiz, 7. M. B. Cossío. Daily 9 to 5.

SWITZERLAND

68. Bern. Schweizer. permanente Schulausstellung (Swiss Permanent Educational Exhibition). 1878. Kavalleriekaserne am Aeusseren Bollwerk. E. Lüthi. Daily, except Sun., 9 to 12 and 2 to 5.

69. Freiberg. Musée pédagogique suisse de Fribourg (Swiss Educational Museum of Freiburg). 1884. Hôtel des Postes et Télégraphes. Léon Génoud. Daily, except Sun. and Tues., 9 to 12 and 2 to 6.

70. Lausanne. Musée scolaire cantonal vaudois (Vaud Cantonal Educational Museum). 1901. École Normale. L. Henchoz. Wed. and Sat. 2 to 5.

71. Lucerne. Permanente Schulausstellung (Permanent Educational Exhibition). 1905. Museum Building. Bezirksinspektor J. Stutz. Tues. and Thurs. 8 to 12, 2 to 6.

72. Neuchâtel. Exposition scolaire cantonal permanente (Permanent Cantonal Educational Exhibition). 1887. Academy Building. Alfred Guinchard. Wed. and Sat., 2 to 4.

73. Zurich. Pestalozzianum (Pestalozzianum—Swiss Permanent Educational Exhibition). 1875. Wollenhof. F. Fritschi.

URUGUAY

74. Montevideo. Museo y Biblioteca pedagógicos (Educational Museum and Library). 1889. Plaza Cagancha. Professor Alberto G. Ruano. Daily 8 to 5.

TABLE II A. THE COLLECTIONS OF EDUCATIONAL MUSEUMS—OBJECTS *

		Year of data	Total	Foreign	Teaching Appliances	Pupils' Work	School Buildings	Building Equipment	Historical	School Administration	
1	Buenos Ayres	'06	1,500	y	y	y	y	y	y	y	Industrial exhibits; hygiene
2	Agram	'05	5,188		y	y	y	n	y		Historical and present-day; hygiene
3	Bozen	'05	965	n	949	n	n	y	n		School art
4	Budapest	'05	5,000	y	y	y	y	y	n	y	
5	Graz	'05	12,000	y	y	y	y	y		y	Hygiene; art
6	Innsbruch	'05	732	n	y	y	n	y	n	n	
7	Laibach		y		y						
8	Prague	'05	871		y	y		y	y	y	Biographical collection; Comenius Museum
9	Vienna (*a*)		y		y			y			Predominantly, natural science and industry
10	Vienna (*b*)		y		y		y				Hygiene
11	Vienna (*c*)		y		y						
12	Brussels	'92	1,415	y	y	y	y	y		y	Hygiene
13	Rio de Janeiro	'05	4,000	y	y	y	y	y			
14	Sofia	'05	y	n	y	y	y	y	y	y	Hygiene
15	Toronto		y	y	y		y	y			
16	Santiago										
17	Copenhagen	'05	y	y	y	n	y	y	y	n	
18	Chartres	'06	y	n	y	n	n	y	n	n	
19	Paris		y	y	y	y	y	y	v	y	Hygiene; school art
20	Augsburg	'05	1,600	n	y	n		y		y	Natural history collections
21	Bamberg	'03	325	n	300	n		25			
22	Berlin (*a*)	'05		y	y	n	n	y	y	y	Collections illustrating history of education
23	Berlin (*b*)	'04	874	n	y	n	n	y		n	
24	Bremen	'03	906	y	y	y	y	y	n	n	
25	Breslau	'06	2,134	y	1469	few	y	y	y	n	School art; historical development of mechanical arithmetic and religious instruction
26	Cologne a. Rh.	'03	517	n	y	n	n	y	y	n	
27	Donauwörth				(y)			(y)			
28	Danzig	'06	260	n	y	n	n	y	n	n	
29	Dresden (*a*)	'04			y						Collections of local science, history, geography, etc.
30	Dresden (*b*)	'05	*2,000	n	y	n	n	y	n	y	
31	Eisenach	'07			y			y	y		Memorial museum to Fröbel
32	Frankfort	'04	*2,000	y	y		y	y	y	y	Represented industrial education only
33	Gleiwitz	'06	368	y	357	y	y	y	n	y	Beginnings of local science and industry exhibits
34	Gotha	'03	200	n	y	n	n	y	y	y	250 autographs
35	Hamburg (*a*)	'06		y	y	n	n	y	n	n	
36	Hamburg (*b*)	'06	1,583	n	y	y	y	y	y	y	Illustrates history of local education.
37	Hannover	'03	318	y	285	y	y	33	n	n	Also local science collections
38	Hildesheim	'04	1,000	y	y	y	y	y	n	n	
39	Jena (*a*)	'90			y	y	y	y	y		
40	Jena (*b*)	'05			y				y		Almost entirely collection in physics
41	Kiel	'03	608		598	n	y	10			
42	Königsberg	'04	683	n	y	n	n	n	n		Dinter Memorial Museum
43	Kolberg	'05	500	y	y	n	n	y		n	Small section for local history
44	Leipsic (*a*)	'67		y	y			y			3,000 objects, including books, in 1867
45	Leipsic (*b*)	'06									Projected collections of appliances, buildings and equipment; also historical
46	Magdeburg	'03	550		533	n	n	y	n	n	
47	Munich	'03	1,020	y	975	n	y	31		n	
48	Oldenburg	'03	y	n	y			y	n		
49	Posen	'03	467	y	386	n	n	40	n	n	School art
50	Regensburg	'04	500		y			y			
51	Rixdorf	'06	y		y	y	y	y			Large science and history collections
52	Rostock	'03	612	n	560	y	y	y	y	y	Small biographical collection
53	Stuttgart			y	y						Especially for industrial drawing
54	Wolfenbüttel	'03	90	n	y	y	n	y	y	y	In addition, a mineral collection
55	London (*a*)		y	y	y	n	y	y		y	Large science collections for higher education
56	London (*b*)		y	y	y	y	y			y	Geography and history materials, especially
57	Athens	'05	y	y	y	y	y	y		y	
58	Genoa	'06	y	y	y	y	y	y		y	A school museum, chiefly; also educational museum; hygiene
59	Rome	'06	y	y	y		y	y		y	
60	Tokyo	'04	9,716	y	y	y	y	y			School art
61	Amsterdam	'05	y	y	y	y	y	y	y	y	Hygiene
62	Hague										Projected school museum with appliance collection
63	Christiania	'06	y	n	y	y	y	y	n	n	Also, manufacturers' exhibit of appliances
64	Lisbon	'06	y		y	y					
65	St. Petersburg	'03	y	y	y	n	y	y			General collection; special military collection; hygiene
66	Belgrade	'06	y		1750	y	y	y			
67	Madrid		y	y	y	y	y	y			
68	Bern	'05	y	y	y	y	y	y	y	y	
69	Freiburg	'06	y	y	y	y	y	y	y	y	Father Girard memorial collection
70	Lausanne	'05	y	y	y	y	y	y	y		A historical collection
71	Lucerne	'05	2,680	y	y	(y)	y	y	y	y	Hygiene; school art
72	Neuchâtel	'05	1,800	y	y	y	y	y		y	
73	Zurich		y	y	y	y	y	y	y	y	Pestalozzi memorial room; technical education
74	Montevideo		y	y	y		y	y	y		Historical collection of national education; hygiene

* In Table II and Table III, y—yes, and n—no. In columns 7 and 8 of Table II B, regarding catalogues p—printed; w—written.

TABLE II B. THE COLLECTIONS OF EDUCATIONAL MUSEUMS—BOOKS

		Year of data	Total	Pedagogical Books	Text-Books	School Pamphlets		Catalogs: * Museum	Library
1	Buenos Ayres	'06	10,000	1,200	y	y	Education, history, geography, children's books, pictures		
2	Agram	'05	2,741	1,846	y	y	Historical collections	p	p
3	Bozen	'05	few	y					
4	Budapest	'04	7,000	500	6,000	300	Includes foreign text-books		
5	Graz	'07	10,757	449	1,000	y			
6	Innsbruch	'05	156						
7	Laibach								
8	Prague		y		y		1,000 volumes of children's literature		
9	Vienna (*a*)		few		y				
10	Vienna (*b*)	'03	1,155	y	y				
11	Vienna (*c*)			n					
12	Brussels	'97	4,261	y	y			p	p
13	Rio de Janeiro	'05	y	3,000	y	n			p
14	Sofia	'05	5,000	y	1,500	y			p
15	Toronto								p
16	Santiago								
17	Copenhagen	'05	y	6,000	6,000	y			
18	Chartres	'05	655	222	n	50			p
19	Paris	'03	72,000	y	y	y		w	p w
20	Augsburg	'05	16,000	1,500	2,000	y	Collection of childrens' literature	w p	w
21	Bamberg	'03	y	100	100			w	
22	Berlin (*a*)	'05	35,000	19,000	15,000	y	Special collections of "great educators"	w	p w
23	Berlin (*b*)	'06	17,000	2,500	1,500	y	Standard collection of children's literature; 750 volumes in '02	p w	p w
24	Bremen	'03	y		500			w	w
25	Breslau	'06	7,000	y	1,500	y		p w	p w
26	Cologne a.Rh.	'05	900	100	800	n			
27	Donauwörth	'06	70,000					p	
28	Danzig	'06	600	500	50		Library belongs to a teachers' association	p	p
29	Dresden (*a*)		n						
30	Dresden (*b*)	'05	y	n		n	Books and magazines relative to teaching appliances		
31	Eisenach	'07	y	y					
32	Frankfort	'04	y			y			
33	Gleiwitz	'06	1,210	500	326	n	Collection of children's literature	w	w
34	Gotha	'03	10,000	2,000	5,000	250		w	w
35	Hamburg (*a*)	'06		n					
36	Hamburg (*b*)	'06	y	n	1,094	y	Historical collection on Hamburg schools; separate active educational library	w	w
37	Hannover	'03	7,538					p w	p w
38	Hildesheim	'04	10,800	3,000	y	y	Children's literature, 600	p w	p w
39	Jena (*a*)	'89	500	y	y				w
40	Jena (*b*)	'05					Professor Schaeffer's science library		
41	Kiel	'03	1,500	y	y	y		w	w
42	Königsberg	'04	6,140	1,423	y	n		w	p w
43	Kolberg	'05	600	y				w	w
44	Leipsic (*a*)	'67	y	y	y		300 children's books; books for foreign language instruct'n		
45	Leipsic (*b*)	'06	1,759				On deaf-mute education		p
46	Magdeburg	'05	y	239	600	y	Historical collection of 1,200 educational books, 1688-1880	p	w
47	Munich	'03					Library undeveloped	p w	
48	Oldenburg	'03	y	y	y		Collection of children's literature with special committee	w	w
49	Posen	'03	1,399	350	400	n		w	w
50	Regensburg	'04	400						
51	Rixdorf	'06	5,000	1,200	3,000	y		w p	
52	Rostock	'05	3,000	400	700	20		p w	p w
53	Stuttgart	'01	68,000	y	y	y	Library of science and art, including education	p	p
54	Wolfenbüttel	'03	1,500	y	y	12		p w	p w
55	London (*a*)		y	y	y		In 1888, transferred to Educational Library of Board of Education (National)		p
56	London (*b*)	'03	8,300	y	y	y	Good educational library; text-book collection		p
57	Athens	'05	5,000			y	Catalogues of foreign schools	p	p
58	Genoa	'06	y	10,000	1,000	y	Includes educational, school and circulating library	n	n
59	Rome	'06	y	y	y	y	A library circulating by post		
60	Tokyo	'04	6,988	y	y				
61	Amsterdam	'05	y	177	7,193	30	Reading room with 40 journals	p	n
62	Hague								
63	Christiania						Independent educational library for teachers	n	y
64	Lisbon			2,000	350	100		n	n
65	St. Petersburg		y		y		Includes a useful religious library		
66	Belgrade	'05	3,295						
67	Madrid	'98	10,220	y		3,500		p	p
68	Bern	'05	y	y	y	y		p	p
69	Freiburg	'03	5,500	y	y	y	Also an independent State Teachers' Library connected with the Museum	p	p
70	Lausanne	'05	y	y	y		Children's literature	p	p
71	Lucerne	'05	1,200	150	900				
72	Neuchâtel	'05	y	400	500	y	Also an independent State Teachers' Library connected with the Museum	p	p
73	Zurich	'05	y	9,000	3,000	y	Archive of reports, etc., children's literature; 170 journals	p	p w
74	Montevideo	'05	12,893	y	y	y			

* In columns 7 and 8 of Table II B, regarding catalogues: p—printed; w—written.

TABLE III A. EDUCATIONAL MUSEUMS—THEIR ACTIVITIES AND ADMINISTRATION

		Exhibits Loaned	Books Loaned	By Mail	Visitors	Hours Open per Week	Temporary Exhibitions	Publications other than Catalogues	Lectures for Teachers	Instr'c'n for Teachers	Lectures for Public	Information Bureau	
1	Buenos Ayres	2,263	y		908	49	y	y	y		y	y	Two thirds of book loans to normal students
2	Agram	100	400		1,000	4	y	n	y		n	y	Sales agent; tests and approves
3	Bozen	y			200	42	n	n	y			y	Collections used in teaching
4	Budapest	n	n		3,000	4	y	y	y		n	y	
5	Graz	y	1,000		2,000	4	y	y	y		y	y	
6	Innsbruch	n			300	42	y	n	n		n	n	
7	Laibach				200	42		n					
8	Prague					2		n					
9	Vienna (*a*)												
10	Vienna (*b*)												
11	Vienna (*c*)	y						y	y			y	Distributes apparatus to schools; sales agent publishes charts
12	Brussels		y										
13	Rio de Janeiro	y	y		120		y	y	y		y	y	
14	Sofia	n	y		1,562	12	n	n	n		n	y	
15	Toronto		y		y							y	
16	Santiago												
17	Copenhagen	1,100	1,200		3,830	6	y	y	y		n	y	
18	Chartres	n	810	y	600	4	n	y	n			y	
19	Paris		18,775	y			y	y	y	y		y	Circulates lantern slides
20	Augsburg	500	3,500		400	28	y	y	n	n	n	y	Sales agent; manufactures and publishes
21	Bamberg	n			120		n	n	n	n	n	n	
22	Berlin (*a*)	n	7,226	y	few	3	y	y	n	n	n	y	
23	Berlin (*b*)	n	9,000		4,000	9	y		y	y	n	y	Courses in physics and chemistry
24	Bremen	n	n	n	1,000	2	y	y	n	n	n	y	
25	Breslau	n	250	y	2,202	4	y	y	y	n	y	y	Has organized exchange system of duplicates among museums
26	Cologne a.Rh.	2,000	400		400	2	n	n	n			y	
27	Donauwörth											y	Acted as sales agent
28	Danzig	30	250		100	2	y	y	y		n	y	
29	Dresden (*a*)				y	4	y						
30	Dresden (*b*)	100	100		1,000	4	y	y	n		n	y	
31	Eisenach				y			y					
32	Frankfort				(375)		y	y					
33	Gleiwitz	n	250		596		y	y	n		n	n	Lectures for school children contemplated
34	Gotha	n	200		150		y	y	n		n	n	
35	Hamburg (*a*)	n			2,000	38	y	y	30		n	y	Tests apparatus for city schools, aids trade
36	Hamburg (*b*)	n	(193)						n		n	n	Not open regularly
37	Hannover	y	1,640	y	y	6	y	n	y		n	y	Lecture room
38	Hildesheim	n	900	y	y	4	y	y	n			y	
39	Jena (*a*)	n	y		(1,000)							y	
40	Jena (*b*)				2,633	42							Collection used in lectures to school children
41	Kiel	y	y	y	150	1	y	n	n	n	n	y	
42	Königsburg	y	1,460		y	2	n	n	n		n	n	
43	Kolberg	75	50	n	2,000	2	y	y	n		n	n	
44	Leipsic (*a*)				(few)	(6)	n						
45	Leipsic (*b*)		150		y	y							
46	Magdeburg	80	240	y	227	1	y	n	n		n	y	
47	Munich	n			1,000	42	y	y	n	n	n	y	Sales agent; tests apparatus
48	Oldenburg				323	4	y	y			y	y	Art exhibits; lantern lectures for adults and committee on children's literature
49	Posen	20	75		3,000	23	y	y	n		n	y	
50	Regensburg				200								
51	Rixdorf	y	y		1,000	1½	y	n	y			y	
52	Rostock	100	120	y	400	1	n	n	y			y	
53	Stuttgart	y	y	y	y	38						y	
54	Wolfenbüttel	y	y	y	y		n	n	n	n	n	y	
55	London (*a*)												
56	London (*b*)	y	y		y	47		y					Circulates Greek and geography lantern slides
57	Athens	(y)	y		1,000	4		y	n		y	y	Acts as sales agent
58	Genoa	y	8,000		y	y		n	y			y	Loans appliances and models of school desks to schools
59	Rome		y	y	y	12		y	y			y	
60	Tokyo	n			49,775	42		n					Formerly furnished sets of natural history exhibits to schools
61	Amsterdam	y			4,000	30	y	y	y		n	y	Acts as sales agent
62	Hague												
63	Christiania	n					n	n				n	
64	Lisbon	n	400		150		3	n	y		n	(y)	Is chiefly a school museum
65	St. Petersburg	y	y		3,378		n	y	y		y	y	Stereopticon material for loan; lectures of various sorts; instruction in music and the sword
66	Belgrade				600	45		n					
67	Madrid	y	y		y	48		y	y	y		y	Laboratory of psychology and anthropology;
68	Bern	18,000	y		4,000	36	y	y	y		y	y	lectures and courses for teachers
69	Freiburg	150	2,000	y	2,500	35	n	y	y		n	y	
70	Lausanne	y	y		1,200	6	y					y	Circulates slides, etc.
71	Lucerne	n	y		600	16	(y)		(y)		n	y	
72	Neuchâtel	n	400		400	4	n	y	n			y	
73	Zurich	y	y		8,000		y	y	(y)			y	Bureau of archives aiding research
74	Montevideo		y		30 daily	54	y	y	y	y		y	National meteorology bureau at museum

TABLE III B. EDUCATIONAL MUSEUMS—THEIR ACTIVITIES AND ADMINISTRATION

		Founded by *	Supported by *	Now Owned by *	Staff (Paid)	Floor Area of Rooms, Square Meters	Rent by *	Expenditures for Salaries †	Other Expenses †	Total Expenses †	In Addition, for Rent †
1	Buenos Ayres	3	3	3	2			$ 428.40	$ 428.40	$ 856.80	
2	Agram	5	5,2	5	1		13	113.29	84.96	198.25	$202.30
3	Bozen	9	1	1	0		1		25.23	25.23	
4	Budapest	3	3	3	3	437		402.93	321.30	724.23	
5	Graz	9	1,2,3,8	8	0		13	27.13	253.94	281.07	249.90
6	Innsbruch	5	(1,2,3)	4	0	160	1	5.95	4.04	9.99	
7	Laibach	5	5,2	5			1		40.46	40.46	
8	Prague	5	1	1			1		121.38	121.38	
9	Vienna (*a*)	1	1				1				
10	Vienna (*b*)	8	8,1	8			1				
11	Vienna (*c*)	8	8,1,3	8			1				
12	Brussels	3	3	3		1,200	3	1,751.68	818.72	2,570.42	
13	Rio de Janeiro	8	8	1							
14	Sofia	3	3	3		274	3	765.40	1,713.60	2,479.00	761.60
15	Toronto	2	2				2				
16	Santiago										
17	Copenhagen	5	3	3	2		3	401.63	776.47	1,178.10	428.40
18	Chartres										
19	Paris	3	3	3	4		3	6,549.76	3,863.69	1,053.45	
20	Augsburg	8	8,1	8	3	417	1	335.58	465.77	801.35	
21	Bamberg	4	4,1	4	0	104	1	2.38		2.38	
22	Berlin (*a*)	4	4,2,1	4	6	—	1	146.13	1,205.23	1,351.60	
23	Berlin (*b*)	1	1	1	2	458	1	287.98	911.30	1,201.66	
24	Bremen	3	3,12,14	3	0	147	14	7.14	98.05	105.19	
25	Breslau	1	1	1	2	239	1	333.20	495.04	828.24	
26	Cologne a.Rh.	1	1	1	1	61	1	44.27	169.93	214.20	
27	Donauwörth	11	11	—		—	(11)				
28	Danzig	4	1	1	—	54	1		119.00	119.00	
29	Dresden (*a*)	4	4,1	4	—	2 rooms	1				
30	Dresden (*b*)	5,4	5,1	5	—		1	19.99	184.21	204.20	
31	Eisenach										
32	Frankfort	8	8	—	(1)	(150)	(13)				
33	Gleiwitz	4	1	1	0	72	1				
34	Gotha	5,4	5,4,1	5,4	0	60	1	4.76	43.79	48.55	
35	Hamburg (*a*)	4	4,2	4	1	240	2	142.80	166.60	309.40	
36	Hamburg (*b*)	4	4,1,2	4,5	0	—	13		4.05	4.05	
37	Hannover	1	1	1		686	1	142.80	1,210.46	1,353.26	
38	Hildesheim	4	4,1,2	4	0	200	1	7.62	53.07	60.69	
39	Jena (*a*)	8	8	—	0	(250)	(13)				
40	Jena (*b*)	11	11	11		144	11				
41	Kiel	4	4,1,5	4	0	60	1	23.80	133.75	157.55	
42	Königsberg	4	1,4	1	1	100	1	34.27	152.32	186.59	
43	Kolberg	4	4,1	4	0	80	1		63.30	63.30	
44	Leipsic (*a*)	4	4,1	—	0		(1,13)				
45	Leipsic (*b*)	6	6	6	0		14				
46	Magdeburg	4	5,1	5	0	136	1		39.03	39.03	
47	Munich	2	2,1	2	2	264	1	1,337.56	357.00	1,694.56	476.00
48	Oldenburg	5	5,2	5	0	310	2	21.42	488.13	509.55	
49	Posen	4	4,1,2	4	1	108	2	29.75	224.19	253.94	
50	Regensburg	2	2,1	2	1	72	1	17.14	20.46	37.60	
51	Rixdorf		1	1	0	144	1		64.49	64.49	
52	Rostock	8	8,1,5,2	8	0	64	13	4.76	43.79	48.55	61.88
53	Stuttgart	2	2	2		144	2		190.40	190.40	
54	Wolfenbüttel	8	8	8	0	(36)	(2)				
55	London (*a*)	3	3				3				
56	London (*b*)	6	6	6			6				
57	Athens	6	6	6		2 rooms	6				
58	Genoa	1	1	1		12 rooms	1		380.80	380.80	
59	Rome	3	3		4		(3)				
60	Tokyo	3	3	11=3		1,200	3	572.86	511.70	1,084.56	
61	Amsterdam	6	6,8,1,2,3	8	2	Building	15	713.51	1,677.91	2,391.42	404.60
62	Hague										
63	Christiania	1	1	1	1		1	45.45	13.33	58.78	
64	Lisbon	1	1	1			1				
65	St. Petersburg	3	3	3	4	844	3	5,488.76	5,845.51	11,334.27	
66	Belgrade	4	4,1,2	4	1	150	1	22.85	45.69	68.54	
67	Madrid	3	3	3	5		3	2,808.40	1,466.08	4,274.48	
68	Bern	8	8,1,2,3	8			2	493.13	1,375.88	1,869.01	955.09
69	Freiburg	(10),2	2,3	2	1	432	2	392.22	561.20	953.42	416.64
70	Lausanne	2	2,3,5	2	1	400	2	57.83	743.27	801.10	
71	Lucerne	2	2,(3),(1)	2	1		2				
72	Neuchâtel	2	2,3	2			2	168.97	696.39	865.36	
73	Zurich	4	8,3,1,2	8	3	Building	1	1,060.29	1,456.56	2,516.85	712.09
74	Montevideo	3	3	3	4	Building	3	3,590.70	1,170.96	4,761.66	

* In columns 1, 2, 3 and 6 of Table III B, the following symbols are used:
1. City. 2. State or Province. 3. Nation. 4. City Teachers' Association. 5. State Teachers' Association. 6. National Teachers' Association. 7. International Teachers' Association. 8. Special Museum Association. 9. Group of Teachers. 10. A Teacher. 11. Institutional. 12. Private. 13. Rents Rooms. 14. Free Private Rooms. 15. Owns Building. Parenthesis indicates a past situation.

† The data for expenditures (columns 7, 8, 9 and 10 of Table III B) are taken from Hübner. The amounts are for the year 1903 with six exceptions. Buenos Ayres, Madrid, Paris and Tokyo are for 1904; and Danzig and Sofia are for 1905.

I. Purposes of the Museums

The purposes served by the museums may best be inferred from the statements of their organization, contents, and activities which are given on preceding pages in tabular form and will later be described. It will be interesting, however, to give first a survey of their original statements of purpose found in the "prospectus," "statutes" or "regulations," drawn up for each museum. This was done for thirty-three German and thirty-four non-German museums.[1] First be it said that a view of purposes thus gained is not entirely adequate to conditions at the present time, for many developments not mentioned in original plans have since come about; also, that these original statements vary greatly in fullness, some being very scanty, and others quite detailed. Nevertheless, from these statements of original plans, taken all together, one can make up a trustworthy account of the purposes most generally conscious in the museum movement. The facts found in these statements of plans are recorded in the following table under the four heads: Classes of persons to be served by the museum; character of the collections projected; the services intended; and the grades of schools included in the field of the museum. The numbers in the table indicate the number of museums, out of a possible sixty-seven, which mention the various services or functions listed.

Classes of Persons to be Served:		Foreign exhibits	14
Teachers	42	School architecture	5
Aid teachers' study	13	School furnishings	26
Teachers in training	5	School administration	1
Pupils	2	Pupils' work	3
School officials	21	Historical exhibits	17
Public	17	To illustrate education	4
Friends of schools	4	To improve education	8
Manufacturers	9	Library	24
Inventors	1	Historical library	3
Character of Collections Projected:		Archives	6
Teaching appliances	57	Text-books	4
New teaching appliances	6	Children's literature	5
Teaching appliances in use	10	Pictures	1
Old teaching appliances	4		

[1] The museums for which statements of purpose were not examined are: Eisenach, Schaeffer at Jena, and Leipsic Deaf-Mute Museum (in Germany), and Toronto, Lisbon, Santiago de Chile, Montevideo and Chartres.

Character of Services:		Publication	8
Information	28	Conferences and lectures for teachers	11
Aid in selection of teaching appliances (German)	18	Lectures for children	2
Research	1	Grades of Schools Mentioned:	
Loaning exhibits to schools	4	Elementary	21
Circulating exhibits	3	Secondary	4
Tests and criticism	6	Teachers' training	4
Improving appliances	4	Industrial	6
Sales agent	6	Schools for defectives	2
Temporary exhibitions	9	Continuation schools	3

Putting some of these facts into words, it is evident that the museums, as planned, were to be of service primarily to teachers. Several museums also mention specifically aid to teachers in their efforts at self-improvement, and aid to teachers-in-training. Services to school officials and to the general public are also given a prominent place; and services to manufacturers, publishers, and inventors of school materials are mentioned.

Teaching appliances are named most frequently among the prospective collections of the museums; in six cases exhibits of "new teaching appliances" are emphasized, in ten, exhibits of appliances which have been introduced into schools, and in four, exhibits of teaching appliances formerly used. "School furnishings," such as desks and other equipment of school buildings, form the next most prominent class of exhibits. The gathering of foreign exhibits, doubtless often with a view to introducing improved types of teaching appliances, is mentioned by fourteen museums. Four museums plan exhibits to "illustrate" education; and eight museums, exhibits to "improve" education. This distinction between merely representing conditions, and attempting to better them, is a vital one—the latter attitude seems desirable. Exhibits of a historical nature are mentioned by seventeen museums, showing that this many at least contemplated the historical services possible through museum collections. Other classes of exhibits planned, but less frequently mentioned, are those to illustrate school architecture, school administration, and the results of teaching as shown in samples of pupils' work. Only three museums mention the latter type of exhibits, which are so common in the United States. A library, or a collection of books, is proposed by twenty-four museums; and special mention

of historical collections of books, of children's literature, of text-books, and of archives of educational pamphlets, is made in the plans of a limited number of museums.

Of the active services contemplated by the museums, the furnishing of information on educational matters was apparently considered the most important, being mentioned by twenty-eight museums; and eighteen German museums mention the giving of information in a special field, "aid in selecting teaching appliances." The arranging of conferences and lectures for teachers is mentioned by eleven museums; the issuing of publications by eight; and the arranging of temporary educational exhibits by nine. Other services mentioned are the circulation, loaning, testing, improving and sale of teaching appliances; the advancement of research; and the teaching of children.

The field of education to be occupied by the museum was stated by twenty-three museums and all except two mention elementary education primarily; in four cases without, and in seven cases with, other departments of education. Secondary education is mentioned by four museums; normal education by four; industrial education by six; the education of defectives by two museums; and continuation education by three. The exceptions to the rule that the museums are devoted primarily to elementary education are the Stuttgart and Frankfurt collections, which were dedicated to industrial education. Mention should also be made of three other specialized German museums which are not included in this tabulation: the Museum of Deaf-Mute Education at Leipsic, the Schaeffer Museum of Physical Apparatus at Jena, and the Froebel Museum of Kindergarten Education at Eisenach.

Again be it said that this view of the purposes of educational museums is partial since it is based on a brief prospectus or statement of preliminary plans. It does, however, represent with some accuracy the most conscious purposes of the museums when organized. A comprehensive view of present conditions can better be secured by the data given in Tables I, II and III, to which we now turn and which is presented in three divisions of discussion: 2. The Museums and Their Organization; 3. Their Collections—Objects and Books; 4. Their Activities.

II. The Museums and Their Organization

This section discusses the museums with regard to (1) location, (2) names, (3) dates of organization, (4) foundation, (5) present control, (6) support, (7) management, (8) quarters, and (9) expenditures. The data for this division is given in Table I and Table III-B.

1. *Location.* Of the seventy-four museums listed (including eight now closed), sixty-eight are in Europe, one in Asia, one in Canada, and four in South America (Table I, Directory). Of the sixty-eight European museums, ten have been organized in Austria, one in Belgium, one in Bulgaria, one in Denmark, two in France, thirty-five in Germany, two in Great Britain, one in Greece, two in Italy, two in the Netherlands and one each in Norway, Portugal, Russia, Servia and Spain, and six in Switzerland. The four in South America are located in the Argentine Republic, Brazil, Chile, and Uruguay. There is one in Japan, and one existed in Ontario, Canada, until 1881. Of the museums listed, eight have been closed: the Vienna City Exhibition, the Educational Museum at Toronto, the Educational Division of the South Kensington Museum at London, the Museum of Instruction and Education at Rome, and the following in Germany: Donauwörth, Frankfurt, Jena (Thuringian) and Leipsic (Exhibition of Teaching Appliances).

Besides the museums listed, mention should be made of these others: (1) At Rotterdam, Holland, an exhibit of appliances with commercial aims was started in 1880, then moved to Utrecht where it was later closed; recently it has been proposed to organize an educational museum in Rotterdam; (2) At Aarhus, Denmark, an educational museum started by a group of four teachers in conjunction with a book publisher existed from 1887 to 1889; and (3) at Palermo, Italy, an educational museum in connection with the university was authorized by royal decree in 1884 and closed by the same authority in 1891. (Hübner mentions a museum at Palermo established by a Professor Latino and gives as its date 1880-1894). (4) Mention is made by Hübner of additional German museums opened at Stade (1904), Straubing (1904), Potsdam (1905) and Würzburg (1905), of which details were not secured for this study. (5) Reference at least should be made to two other German institutions: (*a*) the School Museum

at Hamburg (1855-1903), a forerunner of the present educational museums in Hamburg, which by reason of its character as a loaning museum in the direct service of the schools is not properly to be enrolled with educational museums; and (*b*) the Pedagogical Central Library at Leipsic, the greatest educational library in the world, which though it has no affiliated educational museum, may be regarded as continuing the Leipsic Exhibition of Teaching Appliances since the book collections of the exhibition were added to the Central Library when the exhibition was closed in 1875. Further, the Leipsic Library just now affords temporary quarters to the recently organized German Museum for Deaf-Mute Education.

The seventy-four museums listed are located in sixty-six different cities, three museums having been organized in Vienna, and two in Berlin, Dresden, Hamburg, Jena, Leipsic, and London, respectively. The thirty German cities possessing museums include the national capital and fifteen cities which are centers of state or provincial government. Of thirty German museums, fourteen seem to serve cities, although five of these extend their services outside; fourteen attempt to serve a wider territory, a province or a state; one, the Deaf-Mute Museum, is national and one, the Froebel Museum at Eisenach, is international in scope. The thirty-six cities outside Germany possessing museums include twenty-one national capitals, and twelve capital cities of states, provinces or cantons. The cities in which museums are located vary in size from Donauwörth, Germany, with a population of 4000 (where a museum was maintained by a Catholic society, 1876 to 1884), to London with a population of 4,500,000. The cities grouped according to size give this result: seventeen are under 50,000; nine are from 50,000 to 100,000; twenty-seven, 100,000-500,000; seven, 500,000-1,000,000; and six over 1,000,000. The countries possessing museums vary from Uruguay with a population of 978,000. to Russia with a population of 143,000,000. The most striking item in population is that Switzerland, with 3,300,000 people, possesses six educational museums.

With regard to German museums, Hübner has pointed out that the museums have so far been largely confined to North Germany; there are two Prussian provinces, three grand duchies, three duchies, all the German principalities, save one, the Free

City of Lübeck, and Elsass-Lothringen, which do not yet possess museums.[1]

2. *Names* (Table I, Directory).

	German	*Non-German*	*Total*
Data given for	35	39	74
Number using name:			
"Educational Museum"	21	21	42
"Educational Museum and Library"	..	3	
"Educational and School Museum"	..	1	
"Museum of Instruction and Education"	..	1	
"Museum for Advancement of Education"	..	1	
"Educational Museum and Exhibition of Teaching Appliances"	..	1	
"Museum of Deaf-Mute Education"	1	..	
"Froebel Museum"	1	..	
Total using "Museum" as name	23	28	51
"Educational Exhibition"	1	6	
"Exhibition of Teaching Appliances"	6	5	
Total using "Exhibition" as name	7	11	18
"Collection of Teaching Appliances"	3	..	
"School-history collection"	1	..	
Total using "collection" as name	4	..	4
"Depository"	1	..	1

The term "educational museum" is the most common, being applied to fifty-one of seventy-four museums, and forty-two times appearing in the form quoted. In nine cases, the word "museum" appears in some other form. "Exhibition" is the next most common term, appearing eighteen times, seven times as "educational exhibition" and eleven times as "exhibition of teaching appliances." Two other terms appear among the German museums: "Sammlung," or "collection," which is used three times as "collection of teaching appliances" and once as "school-history collection"; and the term "depository" as applied to the "Depository for Teaching Appliances and School Furnishings at Munich."

A discriminating use of these titles would apply "museum" to systematic collections, historical or comparative in nature, and would confine "exhibition" and "collection" to less imposing attempts; "exhibition" also generally denotes a temporary display.

[1] Hübner gives a map showing the location of the 28 museums active in 1904, but the above statements are regarding the 35 listed.

It may be noted that among German museums there seems to be an increasing use of the term "Schulmuseum" (educational museum). Of the ten museums formed previously to 1882, only three were termed "Schulmuseum"; of the eight between 1888 and 1892, all used this title; of the fifteen since 1896, ten use this term.[1]

The translation of "Schulmuseum" as "educational museum," instead of as "school museum," may be questioned as pointed out in the Introduction. Distinguishing functionally all museums related to education one gets two classes: those serving in school work directly, and those serving educational progress through teachers and school officials in a professional or scientific way. The former are properly school museums; the latter educational museums. These German museums are of the latter type. Two of them combine the two functions, are both school and educational museums: Hanover and Rixdorf. The Hamburg School Museum, already referred to, was strictly a school museum.

3. *Dates of Organization* (Table I, Directory). The Toronto Educational Museum must be credited as the first museum of education, since its beginnings date from 1845. The first European exhibitions are those of Stuttgart, dating from 1851, and London, from 1857. If one will group together the museums chronologically, one finds that the German museums by themselves fall into the following groups: two were opened up to 1865; five from 1875-1877; three 1880-81; eight, 1888-92; six 1895-7; fourteen (including Stade, Straubing, Potsdam, and Würzburg) from 1900-1905. The thirty-seven non-German museums, for which date of organization is given, may be grouped as follows: three from 1845 to 1864; three from 1872 to 1875; twelve from 1877 to 1884; eight from 1887 to 1892; two in 1898,

[1] The next most common German term, "Ausstellung" (exhibition), has been borne (1) by four out of the five Bavarian institutions, where its frequency can possibly be explained by imitation; and (2) by two of the earliest museums, founded in 1865 and 1877; and (3) in only one case outside of Bavaria has it been used recently (Hamburg, 1897).

The other term, "Sammlung" (collection), which appears three times, is applied (1) in two cases very properly to collections which are just forming (School-history collection at Hamburg, and Collection of Apparatus, Danzig, the latter of which has as its organ "Schul-Museum") and (2) in one case (Cologne) not inappropriately to a small collection.

and nine from 1901 to 1905. It is evident from both groupings that the educational museum movement has not exhausted itself. On the contrary, both groupings show as great activity in the last few years as at any time.

4. *Foundation* (Column 1, Table III-B).

	German	*Non-German*	*Total*
Data given for	34	36	70
Foundation by city	5	4	9
Foundation by state or province	3	5	8
Foundation by nation	..	12	12
Total by government	8	21	29
City Teachers' Association	15	2	17
State Teachers' Association	1	5	6
National Teachers' Association	1	2	3
City and State Association	2	..	2
Total by teachers' ass'ns	19	9	28
By a group of teachers	..	2	2
By Museum Association	5	4	9
Total by special associations	5	6	11
Institution	2	..	2

Among seventy museums, twenty-nine were founded by the government, city, state or national; twenty-eight by teachers' associations; eleven by special museum associations; and two (Donauwörth and the Schaeffer Museum, Jena) by institutions. A striking difference between the origin of the German and non-German museums is apparent: of thirty German museums, eight (26%) were founded by government, and nineteen by teachers' associations; of thirty-six non-German museums, twenty-one (58%) were established by government, and nine by teachers' associations.

Tracing back each of the German museums where possible to the situation out of which it arose, one finds that fifteen at least of the thirty-five organized resulted from temporary educational exhibitions, the benefits of which it was desired to perpetuate, or from which came the needed impetus. In two cases, Stuttgart and Munich, international exhibitions abroad at London and Vienna respectively, were the stimulus; in five cases, the German Museum at Berlin, Cologne, Gotha, the Hamburg Exhibition and the Leipsic Exhibition, the museum resulted from exhibitions at general meetings of German teachers; in eight cases, Danzig, the two Dresden museums, Frankfurt, Gleiwitz, Kolberg, Magdeburg,

and Posen, there were provincial or local educational exhibitions. In three cases, Donauwörth, Rixdorf, and the Schaeffer Museum at Jena, the museums were based on a collection made by a teacher. In two cases at least, Kiel and Cologne, the inspection of museums already existing served as a stimulus to organization. Imitation has in a majority of cases doubtless been of more or less influence, frankly so in the case of the German Deaf-Mute Museum which resulted from a call for materials for a similar museum in Paris. The personal initiative to the organization of twenty-five of thirty-five German museums came from a teacher, or the director of a school; in one case, from a conference of teachers; in one case, from a teacher and a government official; in six cases from government officials; in two cases, Stuttgart and the Hamburg school museums, the personal source is not plain, though the former was doubtless governmental, and the latter a teacher. In brief, twenty-seven German museums may be credited to the initiative of a professional teacher, seven to a government official, and one to both.

In the case of non-German museums, going back to the beginning of thirty-three museums, it was found that fifteen owed their origin to teachers, ten to the action of government or school officials, and eight to suggestions arising from temporary exhibitions or international expositions. The Vienna Exposition of 1873 led to the establishment of museums at Budapest, Rome, Zurich, and Bern. The Rio Janeiro museum resulted from an international educational exposition held in that city in 1883. The educational section of the South Kensington Museum, which next to Stuttgart (1851) is the oldest European educational museum, was an effort to make permanent the temporary exhibition of teaching appliances organized in London in 1854 by the Society of Arts; just as the Stuttgart exhibition itself resulted from the London Crystal Palace Exhibition of 1851.

5. *Present Control* (Column 3, Table III-B).

	German	*Non-German*	*Total*
Data given for	30	32	62
Control by city	8	6	14
Control by state or province	3	4	7
Control by nation	..	10	10
Total by government	11	20	31
Control by City Teachers' Ass'n	11	2	13

	German	*Non-German*	*Total*
Control by State Teachers' Ass'n....	4	2	6
Control by National Teachers' Ass'n.	..	2	2
Total by Teachers' Ass'n.....	15	6	21
Control by Museum Ass'n.....	3	6	9
Control by institution.....	1	..	1

Of sixty-two for which data of present control is given, thirty-one are controlled by the government, twenty-one by teachers' associations and nine by museum associations (*i.e.*, thirty by associations); one is controlled by an institution. This represents some shifting from the original basis of organization, both among the German and the non-German museums.

Among the German museums, three now under a city were started by teachers' associations; one, the union of beginnings made by a city association and by a provincial association, is now controlled by the latter; and one other started by a city association is now controlled by a provincial association. All five changes were toward securing a more stable supporting body, the city government or a general teachers' association. Of the four German museums which have been closed, two were started by a special museum association, one by an institution, and one by a city teachers' association. In general, museum support from an association, either special or general, has not proved stable in Germany.

Among non-German museums, eight museums have changed from their original basis of control: four museums established by associations have passed to the public control (three to a city and one to a national government); three (two started by teachers' associations and one by a group of teachers) have passed to special museum associations; one organized by a national teachers' association is now controlled by a similar state association. The transition to government control is parallel to the tendency among the German museums; the change to special museum associations is contrary to the German experience. The six non-German museums controlled by special associations indicate that such an association may successfully conduct an educational museum when the government fails to do so; it is noteworthy, however, that only one museum (Wolfenbüttel, Germany) is exclusively supported by a special museum association, and the

exception is a small struggling museum; further, that only three museums controlled by teachers' associations are supported without government grants, or aid in furnishing quarters at least.

6. *Support* (Column 2 Table III-B). In general, the museums are supported by the bodies controlling them, but it is noteworthy that government encouragement and aid is given many of the museums not controlled by public authority. Of German museums besides the eight directly controlled by city governments, cities make grants to sixteen others; three are under state control, and state grants are given to seven others. In twenty of thirty-five cases there is some joint basis of support; private initiative with government aid is the most common basis of support. Of non-German museums, besides those supported outright by some single body or authority (six by a city, one by a state, twelve by a nation, two by a national teachers' association, and one by a special museum association), there are fourteen which receive grants or aids from city, state or national government: eight of these receive grants from cities; eight from state governments, and nine from national governments. In one case, Innsbruch, single grants were made originally by national, provincial, and city governments, from which a small capital sum was invested.

7. *Management.* The museums which have been developed by teachers' associations have depended largely upon the voluntary services of teachers for their direction. For responsible authority there is usually an elected committee or series of committees, composed of teachers, with one of their number or some other school man as director. In Germany, twenty-nine of thirty-three museum directors are school teachers or principals. In the government museums, a school inspector or other school official is often appointed director with responsibility to the educational authorities concerned, city, state or national. The public museums are also sometimes governed by a commission: the Breslau museum has a commission appointed by the city authorities and composed of the city school councilor, as chairman, a city school inspector, a teacher chosen by a coöperating teachers' association, two persons acquainted with the teaching appliance business and the director of the museum, who is the director of a Breslau school.

The following table gives data regarding paid staff in twenty-nine German and twenty non-German museums (Column 4, Table III-B):

	German	*Non-German*	*Total*
Data given for	29	20	49
No staff	16	4	20
One person	6	6	12
Two persons	4	3	7
Three persons	1	2	3
Six persons	2	4	6
Five persons	..	1	1

In Germany over half of the museums which are reported on, rely on voluntary help; elsewhere, one fifth. In part this reflects the fact that the German museums are creations of the professional spirit of the German teacher. The paid staff is often on a part time basis, and the provision is sometimes for the library instead of for the objective collections of a museum.

8. *Quarters* (Table I, and Column 5, Table III-B). The table states the nature of the buildings occupied, wholly or in part, by thirty-four German and thirty-five non-German museums:

	German	*Non-German*	*Total*
Data given for	34	35	69
School buildings	15	12	27
Other public buildings	10	11	21
Rent free	3	..	3
Government pays rent	2	8	10
Rented quarters	3	2	5
In institution	1	..	1
Teachers' Association Building	..	2	2

Of the thirty-five German museums, twenty-five have had free rooms in public buildings, fifteen in schools and ten in other public buildings. Of the ten not quartered in public buildings, three enjoy free rent, two others receive city grants for rent charges, and information is lacking about one, Eisenach; the remaining four German museums are those which have been closed, and of these, three occupied rented quarters and the rent charges helped make existence impossible, and the fourth was in the Cassianeum, a private institution. Two conclusions may be suggested: There is perhaps a rough measure of the vitality of German educational museums as at present organized, in the fact

that no museum which has had to pay rent has permanently prospered;[1] on the other hand, the fact that free rooms are furnished all existing museums but one, independently by different city and state governments, indicates that public officials regard them as proper objects of government encouragement.[2]

Among the twenty-four non-German museums, twelve are in schoolhouses and eleven in other public buildings, and one rents quarters. Government interest is shown by the fact that eight museums not controlled by the government occupy quarters in public buildings or receive grants for rent.[3]

The accompanying table gives the floor area occupied by twenty-seven German and nine non-German museums.

	German	*Non-German*	*Total*
Data given for	27	9	36
Less than 100 sq. m.	9	..	9
100-200 sq. m.	9	2	11
200-300 sq. m.	5	1	6
300-400 sq. m.	1	..	1
400-500 sq. m.	2	3	5
686 sq. m.	1	..	1
844 sq. m.	..	1	1
1200 sq. m.	..	2	2

Of these museums, the non-German museums possess larger quarters than the German museums. The largest German museum has a floor area of 686 square meters; there are two non-German museums credited with 1200 square meters each. Besides provision for storing and displaying exhibits, and caring for books, some museums have a lecture room for explanations to visitors and for lectures and conferences. One German museum, Hamburg, has an entire building, a former school building which includes such a lecture room. The most picturesque installation is

[1] The School Museum of Local Science at Hamburg, which existed nearly fifty years, was no exception, for, from 1881 on, it received a grant of 500 M. for rent.

[2] Column 6 in Table III gives the situation regarding rent for the German museums; twenty museums have had rooms free from a city, and another did for a period, then rented rooms and was closed; six are given free rooms by the state or province; one has free rooms from private bounty; one was connected with an institution; and one is in a private institution (Schaeffer at Jena); four besides the one mentioned have had rented rooms, and of these, three have been closed.

[3] Comparison of columns 3 and 5, Table III-B.

that of the Tokyo museum, which occupies the buildings and grounds of a former temple; the Brussels museum occupies a former exposition building; and the Paris museum a house, formerly the property of a religious society.

9. *Expenditures.* Hübner furnishes for fifty museums data regarding total annual expenditures, distributed for salaries, and for other purposes exclusive of rent; and in addition the money paid for rent in the ten cases in which he finds that a money rent is paid.[1] This data is repeated in Table III-B (columns 7-10). Excluding the rent item, the following statements may be made regarding these expenditures:

The largest budget was that of the St. Petersburg museum, $11,334, and that of Paris was almost as large, $10,534.52. Two, Montevideo and Madrid, were over $4000. Four, Brussels, Zurich, Sofia and Amsterdam, were over $2000. The following seven were from $1000 to $2000: Bern, Munich, Hanover, the two Berlin museums, Copenhagen and Tokyo. The remaining thirty-five had budgets of less than $1000 distributed as follows: 1, museum, $900-$1000; 6, $800-$900; 1, $700-$800; 1, $500-$600; 2, $300-$400; 4, $200-$300; 7, $100-$200; and 14 less than $100. These budgets are for twenty-four German and for twenty-six non-German museums. Of the fifteen museums with budgets over $1000, four are German and eleven non-German; of the thirty-five with budgets less than $1000, twenty-one are German and fifteen are non-German. The percentage which the salary forms of the total expenses was ascertained for the fifteen museums whose expenditures were over $1000 per year; it varied from 79% to 10%. With larger budgets there was a tendency for the percentage for salaries to increase; with small budgets to decrease. One remark might be made: the surprisingly small size of the budgets may belittle the importance of the museums in the reader's eyes; it should be added that probably every museum relies in good part upon voluntary assistance which is inversely proportional to the size of the budget. Many German museums of small means, for example, are achieving notable results through the disinterested professional services of teachers.

[1] Hübner, Die Ausländische Schulmuseen, pp. 9-11.

III. The Collections: Objects and Books

The attempt is made in Table II to give data regarding the contents of the museums and here as there it may be presented in two sections: Objects and Books.

1. *The Objective Collections.* The objective collections will be considered under the following topics: (1) total number of objects, (2) foreign objects, (3) teaching appliances, (4) exhibits of pupils' work, (5) school buildings, (6) building equipment, (7) historical exhibits, (8) school administration, and (9) special collections.

1. Total Number of Objects: In column 3, of Table II, there are given the total numbers for the objective collections in twenty-three German and twelve non-German museums. This figure of "total number," as Hübner suggests, may be ambiguous, meaning either individual objects, or individual groups of objects. The latter usage is more common, and the total number of objects in a museum is therefore larger than the number of exhibits reported. Among the twenty-three German museums, the numbers vary from 90 to 2134 "numbers": two museums have less than 250 numbers; six have from 250 to 500 and 6 from 500 to 750 numbers; three from 750 to 1000; and six range from 1000 to 2134. The "mode" of the distribution of these numbers, or the point where the bulk of them fall, is from 250 to 750, twelve museums having numbers between these limits;[1] the "median value" is 500 to 750, and may be taken as representative of the average size of their objective collections.

Of the non-German museums, exact figures are given for twelve only. One is between 500 and 750; two between 750 and 1000; two between 1250 and 1500; the remaining six have the following scattered values; 1800, 2680, 4000, 5000, 5188, 9716, 12,000. The median value for this distribution is between 1800 and 2680. For the two sets of museums compared at any rate it is evident that the non-German museums possess the larger objective collections.

2. Foreign Exhibits: Of twenty-five German museums on which data was secured, thirteen report foreign exhibits; twelve report none. Of twenty-nine non-German museums, twenty-four

[1] It is possible that two of the three largest numbers for German museums represent individual objects, not groups of objects.

report foreign exhibits and five report none. Such exhibits, most commonly of teaching appliances probably, are therefore more common in the non-German than in the German museums. All six Swiss museums report such exhibits. Of a total of sixty-four museums, thirty-seven (57.8%) have exhibits from foreign countries (Column 4, Table II).

3. Teaching Appliances: All of the museums (thirty-four German and thirty-seven non-German) from which data is presented report exhibits of teaching appliances (Column 5, Table II). For nine German museums, the number of exhibits of school appliances is stated numerically; in these cases it is possible to compute the numerical relation between the school appliance collection and the complete objective collections. The percentages are 68.8, 82.6, 89.6, 91, 92.3, 95.5, 96.9, 97, and 98.3. These figures are the best possible statement that for these nine German museums, at least, the school appliance collection is the museum, practically. The term "teaching appliance," as here used, is given a wide significance to comprise all apparatus, aids and teaching materials used in class-room instruction; it signifies "Anschauung" material, maps, charts, models, specimens, etc., used in teaching the various school subjects, and also generally includes text-books for pupils and teachers' manuals. Such collections of "Lehrmittel" form the center of the German museums, as shown by the percentages quoted. The Augsburg museum, according to Hübner, has the best collection of teaching appliances; its standard is "the apparatus (and books) officially introduced and recommended for use in the Bavarian common schools." The Hamburg exhibition of appliances has displayed equipment desirable for local schools, coöperating with the school authorities in improving the equipment of local schools. For non-German museums, the exact size of the teaching appliance collection is reported by only two museums, and for one only of these is it possible to state its relative importance; the appliance collection here comprises 947 of a total of 965. Other evidence indicates that in many non-German museums the appliance collection is not so important a part of the museum as in most of the German museums.

Many museums have taken a distinct position with regard to the manufacturers of school equipment, apparatus for teaching,

and other objective materials of education. In part this has consisted in giving manufacturers and publishers opportunity for displaying their products; sometimes the criticism of their products is undertaken, with a view to aiding selection, and to encouraging the production of improved appliances. Perhaps the most striking service, and certainly one of the most important functions of a museum, is the introduction of new manufactures into a country. This has been done with great success by the museums at Toronto, St. Petersburg, Tokyo and Copenhagen, and has been attempted, though with what success it is not plain, by many other museums. Such a service naturally is most needed in a country deficient in such appliances; but the international exchange of information might still be important between countries advanced in the manufacture of teaching apparatus.

4. Exhibits of Pupils' Work (Column 6, Table II). Ten of twenty-five German museums (20%) report such exhibits; in the other fifteen they are not present. Of thirty non-German museums, twenty-five (83%) have such exhibits and five have not. The non-German museums pay more attention to such exhibits than do the German museums. Of the fifty-five museums of both groups, thirty-five (63%) have these exhibits. The entire situation is in contrast to the experience thus far in the United States, where the majority of museums and exhibitions consist of pupils' work almost entirely.

5. School Architecture Exhibits (Column 7, Table II): Architectural exhibits consisting of plans of buildings, models, photographs, etc., are included in twelve of the twenty-four German museums; in twelve, not. Similar exhibits are included in twenty-nine of thirty-two non-German museums for which data on this point is presented; in three, they are not. Therefore, of the total fifty-six museums, forty-one (73%) have exhibits of school architecture.

6. Building Equipment (Column 8, Table II): Equipment and furnishings for school buildings, including such items as desks, furniture, blackboards, chalk, etc., are found as exhibits in twenty-nine out of thirty-one German museums; in two they are not found. Of non-German museums, twenty-nine of thirty-two report similar exhibits. Therefore, of a total of sixty-three museums, fifty-eight (92%) have this sort of exhibits.

7. Historical Exhibits (Column 9, Table II): Exhibits illustrating the history of schools or of education are present in eleven of twenty-two German museums, in eleven not; and there are similar exhibits in thirteen of eighteen non-German museums for which information is given. That is, of a total of thirty-nine museums, twenty-four (61%) have exhibits of a historical nature; and these exhibits are somewhat more common in non-German than in German museums. The "German Museum" at Berlin has a noteworthy collection of memorials of eminent educators, including portraits, medals, and autographs, as well as their works; Breslau has exhibits illustrating the development of teaching appliances in mathematics and in religious instruction; Gotha has a collection of 250 autographs and makes the representation of early education in the province one of its aims; the Hamburg School History Collection is a significant museum devoted to the history of schools and education in Hamburg and its vicinity; at Jena there was recently opened a memorial museum of physics appliances used by Professor Schaeffer, formerly of the University of Jena; Königsberg has a collection in memory of Dinter, founded in 1888; Rostock has exhibits in honor of famous educators; and the great Leipsic Library was founded in memory of Comenius and contains collections of his works, and various relics. Some of the more important historical collections in non-German museums are noted elsewhere under special collections (Section 9, following).

8. The organization and administration of schools are illustrated by such exhibits as administrative record and report blanks, charts showing statistics, etc., found in nine of twenty-one German museums for which data on this point is supplied; in twelve, not. Of non-German museums, nineteen of twenty-three reporting have administrative exhibits; four have not. That is, of forty-four museums, twenty-eight (63%) possess such exhibits. Judging by the data given, these exhibits are more common in non-German than in German educational museums. (Column 10, Table II).

9. Special Collections: Besides summarized data as to definite types of exhibits, Table II in the eleventh column gives information as to certain special exhibits in some twenty-one German and twenty-three non-German museums.

Of the German museums seven have smaller or larger science collections, often representations of local science in connection with them; one of these, the Schaeffer museum at Jena, is entirely devoted to physics apparatus; seven museums are mentioned for special collections bearing on the history of education. The following other special collections are present in one or more museums: school art and schoolroom decoration; school hygiene; pictorial collections; exhibits of local industry; special collections of materials for lower grades of the school; special collections for certain school subjects—as religion, arithmetic, drawing (Stuttgart), etc. One should recall here, too, the specialized educational museums: of Froebel and the kindergarten at Eisenach; of local educational history at Hamburg; of industrial education at Frankfurt; of physics, at Jena; and of deaf-mute education at Leipsic.

The more important special collections in the non-German museums are: six historical collections, including memorial collections in honor of Comenius, Pestalozzi, and Father Girard, at Prague, Zurich, and Freiburg respectively; two collections illustrating industrial products; two collections of natural science objects; two special collections, at least, illustrating technical education, those at Zurich and Bern to which the Cantonal government makes special grants; and the collections illustrating military education at the St. Petersburg Museum. In addition, mention should be made of exhibits in twelve non-German museums regarding the hygiene of school buildings and school life; and, in five museums, exhibits of art for schoolroom decoration.

2. *Book Collections* (Table II-B). The book collections of the museums are presented under six topics: (1) total number of books, (2) educational books, (3) text-books, (4) pamphlet collections, (5) special library collections, and (6) catalogues of objective and book collections.

1. Total Number of Books (Column 2, Table II-B).

	German	*Non-German*	*Total*
Data given for	20	18	38
Less than 500 books	2	1	3
500-1000	3	1	4
1000-1500	3	2	5
1500-2000	2	0	2
2000-3000	1	1	2
3000-4000	0	1	1

	German	*Non-German*	*Total*
4000-5000	1	2	3
5000-10,000	4	6	10
10,000-20,000	3	3	6
35,000	1	0	1
72,000	0	1	1

Thirty of thirty-one German museums for which data is given, and thirty-two non-German museums report educational libraries. One German museum reports no book collection. The number of books in these museum libraries, German and non-German, is distributed in the tabulation above. Half the German libraries have less than 2000 books each; half the non-German libraries have less than 6000 books each. Of libraries of over 5000 volumes, there are eight in the German, and ten in the non-German group. On the whole the libraries outside of Germany are the larger. Of the total number of libraries, thirty-eight, for which data is present, the "mean" number of volumes is 5000, and this number may be taken as an average size for the educational libraries connected with educational museums. Among German educational libraries, mention should be made of the library of 35,000 volumes, connected with the Berlin City Educational Museum, the largest in Germany so related to an educational museum. Still larger, though not given in the table, are the following three German libraries: the library of the Cassianeum at Danauwörth, 70,000 volumes including a large educational section, with which an educational museum was associated from 1876-1884; the library of 68,000 volumes in science and art, including education, at the National Industrial Museum at Stuttgart, with which an exhibition of teaching appliances is connected; and (to be mentioned, though not connected with a museum) the greatest of all educational libraries, the Pedagogische Central-Bibliothek (Comenius Foundation) at Leipsic, with its 122,000 volumes (including 40,000 pamphlets). The largest library connected with an educational museum is that of Musée Pédagogique in Paris, of 72,000 volumes.

2. Educational Books (Column 3, Table II-B): Collections of books bearing strictly on education are reported by twenty-three of twenty-five German museums, on which data is presented, and by twenty-seven of the non-German museums. Doubtless there are some educational books in all the libraries. Data was

given by twelve German and by six non-German museums which make possible the statement of the relative importance of these collections of educational books in the individual libraries concerned. (Comparing Columns 2 and 3, Table II-B.) For the twelve German museum libraries the educational books form the following percentages of the total number of books: 9.3, 11, 13.3, 14.7, 20, 23.1, 24, 25, 27.7, 41.3, 54.2, and 83, respectively. For the six non-German libraries, the percentages are 4.1, 7.1, 12, 12.5, 33.8, and 67.3 respectively.

3. Text-books (Column 4, Table II-B): Collections of school text-books, *i.e.*, pupils' books and teachers' manuals, are reported by twenty-three German and by twenty-seven non-German museums. The number is stated definitely for eleven German and for ten non-German museums. For the German museums the text-book collections vary from 50 to 15,000; the largest collections are: Rixdorf, 3,000; Gotha, 5,000 and Berlin German Museum, 15,000. The text-book collections form the following percentages of the total book collections: 8.3, 8.8, 8.8, 12.5, 21.4, 23.3, 26.9, 28.5, 42.8, 50 and 60, respectively. Of the ten non-German museums, three have 350, 500, and 900 text-books; four have from 1000 to 3000; and three have from 6000 to 7193. One reports none. For four museums the text-book collection, stated in percentages of the total library, is as follows: 9.2, 30, 75, and 85.7 respectively.

4. Pamphlets (Column 5, Table II-B): Educational pamphlets, *i.e.*, school programs, regulations, reports, etc., are reported as present in fourteen German libraries; in five not present; of non-German museums, twenty report such a collection, and one reports none. Altogether, therefore, of forty museums, thirty-four (85%) have collections of educational pamphlets.

5. Special Library Collections (Column 6, Table II-B): Notes are given regarding special collections. Among the German museums in six libraries, there are special collections of literature for children; there are two historical collections; Professor Schaeffer's library of science, in connection with the Schaeffer Museum at Jena, should be mentioned; one museum restricts its collection of books to those bearing on teaching appliances; and in one other case (Kiel) the library is intended to include books written by teachers of the province, or books

bearing upon its schools. Among the non-German museums, four report collections of children's literature; three report associated educational libraries under independent management; Buenos Ayres, Montevideo and Chartres have an educational library and museum combined, as expressed in their titles; Athens has a collection of catalogues of foreign schools for parents who desire to send their children abroad to be educated; and several museums maintain reading rooms with educational journals on file in connection with their libraries.

6. Catalogues: The organization of museums and libraries is indicated somewhat by the situation regarding catalogues (Columns 7-8, Table II-B). Among German museums twenty-six seem to possess catalogues of their objective collections; of these, twelve have catalogues in written form only; five, printed catalogues only, and nine have both. Twenty-two libraries seem to possess catalogues of their book collections, eleven having written catalogues only; two, printed catalogues only; and nine, both written and printed catalogues. Among non-German museums: (1) ten report printed and one a written catalogue of objective collections; three report no museum catalogue; (2) sixteen museums report library catalogues, fourteen having printed catalogues and two both printed and written; three report no library catalogue. Altogether, thirty-seven at least have catalogues for objective collections, and thirty-eight at least have library catalogues. Doubtless these numbers are too low.

These catalogues vary in value. Of German catalogues, the library catalogues of the Leipsic Library and Berlin City Educational Museum are noteworthy. Among the better German museum catalogues are those of the Schaeffer museum at Jena, and of the Breslau Museum, and the Hamburg Exhibition circulars. Of non-German catalogues those of Zurich and Amsterdam are two above the average and may be described briefly. The Pestalozzianum at Zurich has issued a separate library catalogue (1880-3d edition 1899, with many supplements) and a separate catalogue of the objective collections (1897, with many supplements). There are also two special catalogues: "The Division for Industrial Improvement Schools," and the catalogue of "Children's and Popular Literature." The catalogue of the collections is of 252 pages and includes illustrative material, text-

books, teachers' manuals, practice books, school architecture and school furniture. It has seven main divisions: (1) natural objects; (2) models; (3) apparatus; (4) reliefs, globes, charts and maps; (5) pictures, tablets and printed works; (6) textbooks, teachers' manuals, and practice books; (7) the school building, its surroundings and furnishings. The entries give a description, the price and the publisher's name. The Amsterdam catalogue, dated 1898, is of 252 pages; it is divided into twenty-two sections according to subjects of instruction, with one or two other topics, as school architecture and furniture; textbooks and apparatus are classed together under one heading instead of in separate parts of the catalogue as in some museum catalogues; the entry gives a brief description, with the publisher's name and often the price. The catalogue in both cases makes plain to persons living at a distance possible materials of instruction in the various school subjects. The experience of the Paris museum regarding catalogues of its library should be quoted: a general printed catalogue was projected and two volumes printed about twenty years ago, but the effort to issue a complete printed catalogue was given up; instead, a manuscript catalogue of over 100 volumes has been made; recently, the museum has undertaken to present, in individual printed catalogues, lists of certain valuable parts of the library.

IV. Activities of the Museums

The data regarding the activities of the museums (Table III-A) is presented, in turn, as regards (1) loaning of exhibits, (2) loaning of books, (3) visitors, (4) hours open, (5) temporary exhibitions, (6) publications, (7) lectures for teachers and for the public, (8) information bureau, and (9) other special services rendered.

1. Loaning of Exhibits (Column 2, Table III-A): Of twenty-six German museums, fourteen report that they loan objects from their collections, and twelve that they do not; of twenty-six non-German museums, seventeen report such loans and nine report negatively. That is, of fifty-two museums, thirty-one (59.6%) report that such loans are made. For thirteen museums, the number of loans is given; seven are 100 or less a year; the others are 150, 500, 1100, 2000, 2263, and 18,000 (Bern). These loans

of objects go in a few cases (Kiel, Stuttgart, Lisbon, Genoa and possibly others) to schools to be used directly in teaching; in so far, the collections serve the purpose of a school museum. Kiel receives a grant of money on condition that the exhibits bought be so used; Stuttgart loaned 2916 educational objects and books in 1895, which were sent carriage free one way and were largely used in instruction in drawing. The loans in other cases go to teachers, school officials and other individuals for inspection and study, and to teachers' meetings and conventions for public exhibition. The most noteworthy plan is the practice of the Rostock museum, which sends parcels of new teaching appliances over four different circuits, including forty-two different places of exhibition and inspection. The Copehagen museum has circulated exhibits and arranged public meetings with lectures on school architecture, hygiene, etc., to accompany them; indeed the museum began in such exhibits. The Paris museum manages a large circulating service of lantern slides throughout France which amounted to 32,060 loans in 1904-5. The St. Petersburg museum and that of the London Guild also maintain loans of slides. The Genoa museum has performed a useful service in loaning models of school desks to school officials in other cities.

2. Books Loaned (Column 3, Table III-A): Of twenty-six libraries in connection with German museums, all but one report that books are loaned; of twenty-five non-German museums, twenty-four report book loans. That is, of fifty-one museums, forty-nine (96%) loan books from their libraries. For twenty-seven, the number of book loans per annum is given: three loaned 100 or less per annum; eight loaned from 100 to 250; four loaned 400 each; six from 800 to 1640; and the remaining ones as follows: 2000, 3500, 7200, 8000, 9000, and 18,775 (Paris). The Leipsic Library loaned 15,538 books. A comparison made for twenty-one libraries of annual circulation with total number of books (Column 3, Table II-A, and Column 2, Table III-B), gives the following results: for nine museums, the percentages vary from 2% to 9.3% of the total number of books; for one, it is 14.6%; for six it varies from 20.6% to 26%; two are 36.3% and 37%; two are 41.6% and 44.4%; one is 52.9% and one is 123.6%. For the Leipsic library, the factor is 12%. Of fifteen reporting regarding loans by mail, thirteen make such loans and two do not;

the Berlin German Museum makes large loans by mail (Column 4, Table III-A).

3. Visitors (Column 5, Table III-A): Sixty-three museums report visitors, and for twenty-three German and twenty-three non-German museums the number of visitors is given. Of the German museums, five report 100-200 visitors; six report 227-400; one reports 596; five report 1000; five report 2000-3000, and one reports 4000. Of the non-German museums, four report 100-200; two, 300-400; three have 600 each and three, 900-1000; three, 1200-2000; two, 2500-3000; two, 3300-3800; two, 4000; one, 8000; and one (Tokyo) has 49,775. Comparing the two series, the non-German museums have the larger attendance, as might be expected from institutions the majority of which are national. It should be said that these figures in many cases are too small, since the number is often taken from the register in which visitors are asked to sign their names. The large number for the Tokyo museum represents in part the general public, and it includes, too, groups of public school pupils with their teachers. Teachers and teachers-in-training are in general the most significant visitors; Belgrade, Zurich and other museums mention regular visits by classes from normal schools, and the Breslau museum in 1905 was visited by twenty-two seminar classes (also seven classes from middle and higher schools), and from certain seminars, classes come annually; the Hamburg Exhibition has similar visitors and provides a small lecture room for explanations.

4. Hours Open (Column 6, Table III-A): Data regarding the hours open per week is given for twenty-four German and twenty-four non-German museums. Twenty-six are open from one to six hours respectively; five, from nine to seventeen hours; three from twenty-three to thirty hours; four from thirty-five to thirty-eight hours; nine from forty-two to forty-nine hours; and one is open fifty-four hours. Comparing the German and the non-German museums, seventeen German museums and nine non-German museums are open six hours or less per week; five German and twelve non-German museums are open over twenty-five hours per week. That is, the non-German museums, are in general open for the longer periods. Besides those listed, four other German museums are opened irregularly or on request.

5. Temporary Exhibitions (Column 7, Table III-A): Of German museums, twenty-one report that temporary exhibits have been held and six that they have not; fifteen non-German museums report such exhibitions and seven report negatively. That is, of forty-nine museums, thirty-six (73.4%) report temporary exhibitions. Some of the subjects represented in temporary exhibitions are: children's literature, history of schools and education, pictures and art for the school, art for the home, manufacturers' exhibits of special groups of teaching appliances as for geography, drawing, and other subjects, exhibits of pupils' work as in manual training and other lines. These temporary exhibitions are often held by the museums in connection with the meetings of teachers' associations; and are occasionally organized at distant points. They are sometimes planned with great care, if one may judge by the printed catalogues issued. Temporary exhibitions are also employed by the museums to bring the newest products of the trade to the attention of teachers; such exhibits often become permanent accessions through the generosity of publishers. The Paris museum has a definite plan of a section of temporary loans from publishers in each of its departments. The Amsterdam museum has a set of regulations governing loans from manufacturers and publishers. The Rio de Janeiro museum has as one feature an annual exhibit of pupils' work. Temporary exhibitions on a large scale are sometimes made by the museums at expositions; that of the Russian museum at Philadelphia in 1876 was a striking example.

6. Publications (Column 8, Table III-A): Of German museums, sixteen of twenty-five, and of non-German museums, nineteen of twenty-nine seem to have issued some form of publications other than catalogues and reports. The publications are of three distinct types: (1) Many museums (ten outside of Germany, at least, and several in Germany) issue a periodical publication or journal which may be a general educational journal, as the French *Revue Pédagogique* which is related to the Musée Pédagogique, though not its organ; or an organ of publicity for the museum, as that of the *Pestalozzianum* at Zurich. Such a medium reports accessions, exhibitions, reviews of exhibits and other items relating to the museum. Sometimes a section in a teachers' paper, or a supplement to such a paper, serves as the

organ of the museum; the Hildesheim museum owns an educational paper which is at once a means of publicity and a small financial asset. (2) Monograph studies have been issued by at least six museums: Paris, Madrid, Copenhagen, Rio de Janeiro, Breslau and Eisenach. Those of the Musée Pédagogique of Paris are among the most important of educational monographs; Breslau has a series of important publications, now numbering seven, including its catalogues, reports on special collections, and four invaluable numbers on the history of educational museums; and the Froebel Museum at Eisenach is publishing original Froebel documents, eight of which are already prepared. (3) Several museums have published or issued school materials, usually in countries not yet well supplied with them: the St. Petersburg museum has published a number of books for the use of soldiers; the Rio de Janeiro museum has issued modifications of French illustrative material; one of the Vienna museums secured the publication of charts by the government; the society which organized the Athens museum has issued a large number of books for school use and popular reading, and has secured the introduction into Greece of foreign charts for school use. Among German museums, the one at Augsburg publishes books (fourteen listed in 1904), report-forms, and has brought out apparatus for arithmetic, a school desk, and other equipment, especially the productions of local teachers.

7. Lectures for Teachers and Public (Columns 9 and 10, Table III-A): Seven of twenty-four German museums and twenty of twenty-six non-German museums have arranged occasional lectures and conferences of a professional nature for teachers. Three museums at least, Berlin, Paris and Madrid, have given continuous series of lectures or instruction for teachers. The Berlin city museum and the Madrid museum have offered regular instruction in physics and chemistry, with laboratory practice; the Paris museum has given lectures on school administration and other subjects. This instruction of rather a formal nature has been intended to assist teachers already holding positions, or those preparing for examinations. Lectures are sometimes held in connection with special exhibits; more frequently "conferences," or meetings to discuss some set topic, have been held at the museum. Breslau gives a considerable number

of public lectures which have grown naturally out of explanations of the physics apparatus collection; the Hamburg exhibition (and others similarly) is visited by groups of teachers-in-training who receive lectures on teaching apparatus; Hannover gives occasional lectures in physics and chemistry, and has a large lecture-hall which will be used systematically by both pupils and teachers. A tendency is noticeable toward joining educational museums to institutions which train teachers: the Tokyo museum, once independent, has been annexed to the Higher Normal School; the Director of the Paris Museum, in his report for 1904-5, suggests that the museum should find its real function, in connection with the higher normal schools and the University of Paris, in the preparation of secondary teachers.

Eight museums report lectures for the public; twenty-eight report none. It may be said, therefore, that the educational museums do not generally attempt to furnish lectures for the general non-professional public.

8. Information Bureau (Column 11, Table III-A): Twenty-two of twenty-eight German museums and twenty-six of twenty-eight non-German museums undertake to furnish information regarding teaching appliances and other matters of educational interest. This is to be regarded as one of the most important functions of the museums.

9. Special Services (Column 12, Table III-A): A few unclassified functions of certain museums may be noted: Six museums mediate sales of the teaching appliances which are on exhibition; one of these further publishes certain appliances itself; two museums undertake to test and approve teaching materials, and all probably exert a critical influence in the sale of appliances. The function of museums in introducing appliances, especially into countries deficient in such aids, should be noted: the Japanese museum formerly supplied thousands of sets of illustrative material annually; the Russian and Canadian museums were especially successful in encouraging domestic manufacture of objects of school equipment and appliances for teaching. Four museums at least loan collections of lantern slides. One arranges art exhibits and holds illustrated lectures of general educational bearing as a means of popular education; in one, lectures for school children have been held, and in another they are

contemplated. The Breslau museum has organized a system of exchanging duplicate exhibits among the German museums; and the Swiss museums have an active Union for furthering their common interests. The permanent collections and temporary exhibitions devoted to children's literature indicate an effort to set standards in this field; this is true among the museums both in Germany and elsewhere; the Oldenburg museum has a special committee on children's literature, acting in coöperation with a national committee; and Hildesheim has issued lists of children's books.

CHAPTER IV

MUSEUMS OF EDUCATION: THEIR ORGANIZATION AND WORTH TO AMERICAN EDUCATION

In previous chapters references were made to the educational museums and exhibits which have been organized in America, and the general characteristics of the educational museum movement elsewhere were presented. In the present section, the question of the usefulness of such museums is discussed, and there follows a systematic statement of the principles of their organization. This procedure involves some restatements in the systematic section, but clearness will be served thereby.

I. The Utility of Educational Museums

Education is a personal process and as such may be directly represented by museum methods only as regards the objective means and other material factors which condition it, and the material results which it produces; personal phases, whether of aims, means, methods or results, can be so represented only in terms of symbolic devices. The utility of such museums is here examined by considering (1) some collections possible in an educational museum, and (2) certain types of educational museums.

1. *Possible Collections.* There are three principal objective groups which are open to direct museum representation: (1) The buildings used for educational work, and their surroundings, furniture, furnishings, and fixed equipment—in brief, the school plant; (2) the equipment for teaching, including (*a*) the materials, apparatus, maps, charts, and other appliances for instruction, and (*b*) printed means including pupils' text-books and teachers' manuals—forming together what may be called the tools of teaching; (3) the results of teaching, in so far as they can be expressed in samples of pupils' work, records, tests, or other objective

forms. Other groups of possible collections might be named: as those of school administration, school hygiene, history of schools and of education, representations of aims, methods, and other phases of education. But in demonstrating the usefulness of educational collections we will refer especially to the three groups cited, and leave all others for mention in the proper section on Principles of Organization.

A general justification of collections might run as follows: Educational libraries are admitted to be necessary for progress in the science of education, to furnish printed sources and records for research study. The museum of education will be just as necessary for the objective sections cited, school plant, tools of teaching, and objective results of instruction. It may be objected that collections of objects are cumbersome, difficult to manage and expensive. To this it may be replied that nevertheless a comparative study of objects is necessary where the final reality is of objects. Or it may be urged that books discussing school plant, tools of teaching, etc., are convenient and are sufficient. But to be valid these books must be based on the real objects, and objects should also be present for verification and illustration. Schematically, one may say that the progress of educational science as regards these topics requires (1) the study of first-hand objects, as they might be presented in museum collections; (2) the publication of results, which become available in printed form for distributing knowledge; (3) the conserving of typical material, at least, of that written up in books; (4) the constant gathering of new material for fresh generalizations. In brief, the progress in organized knowledge regarding these important objective sides of education will necessitate the maintenance of collections of appropriate material at centers of research, quite as much as is necessary in natural science. On the next level, that of diffusing knowledge already known, such collections would be invaluable in illustration of principles and in endowing information with the vitality of first-hand experience.

In particular, it may be urged further: (1) as regards the problems of the school plant: A center of collections and research would accumulate data on vexed points, as types of school desks, laboratory desks, lighting of schoolrooms, playgrounds, locker schemes, and the hundred other details that arise for solution with

every new building; would advise school boards and architects; and would record progress as made, in printed form, lantern slides, sets of plans, etc., and thus make it widely available. Historical exhibits showing the evolution of the school house would be of public interest in museums open to visitation, and as well vital and striking topics of present moment in school administration, like ventilation and playgrounds. Research collections on buildings and furniture would be needed perhaps only in a national museum of education and a few centers of advanced study; but small teaching collections, partly of real objects, and partly of illustrations coming from these larger centers, would be useful in every place where teachers are trained. (2) As regards collections illustrating teaching appliances, or the teacher's tools: An example of historical research is afforded by Hübner's study of all the series of charts issued for religious instruction in Germany, which form a complete section of the Breslau Educational Museum. The subject of teaching appliances, both as a whole and in the individual school subjects, offers rich returns for study in its relation to school practice. It would not be an impossible undertaking to gather together the appliances, apparatus, maps, etc., of all kinds, and as well the text-books, for all subjects and grades of public education, as material for research. For, first, the proposal is less sweeping than it appears since in many cases a sample would represent a series; second, and more important, one needs to be free of the museum superstition that all material must be exhibited in glass cases—really it should largely be stored away in cupboards, compactly and in classified order, much as books go on shelves. Such a series would offer opportunity for most significant research and experimentation. For public visitors, historical and comparative exhibits would again be interesting, as the teaching equipment of an Ichabod Crane compared with that used to-day; or, if the museum were in a teaching institution, periodical displays drawn from storage to illustrate instruction, interspersed with manufacturers' and publishers' exhibits of the latest books and productions. With complete collections in reserve, public displays of a systematic character would be possible as occasion demanded; for example, the materials for teaching of mathematics could be exhibited for a meeting of

mathematics teachers. Again, much material would be worked up into printed form, illustrations, and lantern slides, making possible its use in less favored centers of teaching where only small typical collections of appliances would be maintained. If the one or more central collections became over-large, series which had been written up could be reduced and only typical exhibits of historical significance retained (the "types" of natural history collections, *i.e.*, objects or specimens which are representatives of new species). Such collections would not only give rise to critical studies, and to definite instruction regarding teaching appliances as they are, but it would react on the production of better appliances, and on the international exchange of ideas. To-day, Germany leads the world in "Lehrmittel," and America suffers from a dearth of useful aids in teaching. One would hope for no less improvement in text-books, both as concerns subject matter and form of publication. (3) As regards collections of the objective results of teaching: It is to be noted that they may be particularly complete in the expressive subjects—writing, mathematics, manual training and the fine and applied arts—and that in no school subject do objects register all the results sought or achieved in education. Such samples of pupils' work may prove useful in two ways: (*a*) as measures of school work and (*b*) as illustrations of school work. If pupils do tasks under set conditions, uniform through a series, the results may be made to "measure" the ability and attainments of pupils, grades, school systems, or other items desired. In cruder ways, one may say that samples of pupils' work serve as "illustrations" of courses of study and of school systems, and on this level are most of the exhibits of children's work so far held. In these samples of pupils' work, however, resides an accurate agency for examining school performance and as "measures" they offer a wide and promising field of educational research. Museums of education could gather this data, and with it of course all other school records reducible to measures, and elaborate it by their own staff or through other scholars and students. The accumulation of intelligible data capable of statistical treatment (and as rapidly as possible its reduction and publication) would be one of the most evident services of museums of education. In the training of teachers, too, it seems that samples of pupils' work

have an illustrative use not yet appreciated. It should be said here that the almost exclusive attention in exhibitions to samples of pupils' work, often unmeaning if not misleading, has been a limitation to educational expositions and annual school exhibits. On the other hand, these occasions have furnished rough measures of educational progress and have contributed to the consciousness of education as a public function.

2. *Certain Types of Educational Museums.* The utility of educational museums will take on substance if, before we pass to our systematic statement of the principles of their organization, we sketch concretely the following types of museums: (1) An educational museum in an institution for training teachers; (2) a city educational museum; (3) a state museum; and (4) a national museum of education.

1. A Museum in an Institution for Training Teachers: In such an institution there are three essential material means which may be employed in training teachers, (*a*) a model school for observation and practice teaching, (*b*) a library of educational books, and (*c*) a museum which contains types of school equipment, the objective tools of teaching in kindergarten and grades, and selected examples of results of children's work as in handwriting, constructive activities, etc.[1] Practice school and library are doubtless the more important, as their earlier development attests; but museum collections of a professional character have a great, and little appreciated, value. Many institutions already have school museums, *i.e.,* collections of illustrative and teaching materials to be loaned for instruction in the schoolroom. These collections could, in part at least, serve at the same time as an educational museum if they were but utilized in the professional instruction of the method courses. This suggests two points: (*a*) normal schools and higher training institutions might without delay take advanced ground by including in their courses reflective, critical study of equipment, teaching materials, samples of pupils' work and other objective material now at hand but as yet with unrecognized possibilities; (*b*) institutions with school museums might catalogue and organize the collections also for professional teaching, and in such cases museums with double

[1] For this comparison, credit is due Professor Bergström of Indiana University.

functions, a school museum and an educational museum, might be developed, with certain collections common to both purposes and certain pertaining to each exclusively. The educational museum in such institutions would serve partly as a storehouse from which material could be taken out for lecture purposes and class discussion.

Consider, for example, the following list of detailed exhibits possible in a single typical field,—handwriting in the schools, and the utilities inherent in them for class-study and individual examination: I. Materials for writing: (1) historical—wax tablet, stylus, ink horn and reed pen of the East; quill pen; writing slate and pencil, etc.; (2) present-day materials: (*a*) writing with paper and ink, samples of papers, inks, penholders, points, blotters; (*b*) writing with paper and pencil, similar exhibits. II. Methods of teaching: (1) teachers' manuals, (2) sets of copy books in various systems; (3) charts, model alphabets, etc., for copying; (4) sets of exercises; (5) historical collections. III. Results of instruction, samples of work: (1) facsimile copies of blackboard writing; (2) samples of the child's first writing in large free hand on large sheets of paper; (3) systematic displays of copy books, illustrating progress of children under slant, vertical and other systems, year by year, or through a school, if possible for identical children; (4) writing as taught in connection with composition; (5) results of writing taught under various conditions, as to place in curriculum and time devoted to it. With such collections feasible, it seems likely that a utilization of even a part of them would add force and accuracy to instruction in methods of teaching writing. Or, consider the topic "appreciation of literature." Can it be represented in a museum collection in a way to add usefully to instruction regarding the teaching of literature? Possible collections might be: I. Means: (1) books for children's reading, selected and graded according to the best standards; (2) supplementary books, as biography, travel, etc.; (3) illustrative material, as maps, pictures, stereograms (German schools, for example, have a special map showing the scene of the play of *Wilhelm Tell*). II. Methods: (1) teachers' manuals; (2) samples of children's notebooks and composition work, drawings, records of dramatic work, and other means of expression; (3) courses of study showing place of literature in course

of study, its relation to other studies, etc. Reviewing this, one recognizes it as machinery for cultivating literary appreciation; the real vital center of the study, the ripening and widening of experience on the part of the pupil, and literature regarded as a treasure house of human experience which through the teacher's life enters into that of the pupil—all this is personal and cannot be directly expressed in the objective. The objective machinery of literature teaching can be shown, however, and this as an aid in explaining method has its use for the young teacher.

Enough is said to show that training institutions might gradually accumulate collections which would be a valuable adjunct to professional teaching, and that an educational museum would be effective, as Goode has it, "for the training of specialists."[1] In the higher professional institutions, museum collections would assist research. They would provide material for the study of the objective side of the school buildings, equipment, teaching appliances, text-books, systems of records, samples of pupils' work in the different subjects of the various grades, etc. The museum, too, could gradually accumulate some historical sections of such material. The museum would also be the place for publishers' and manufacturers' displays of books and apparatus; for selected temporary exhibits of pupils' work; and for itinerant exhibits sent out from some central state or national museum; and the institutional museum itself might loan out such exhibits to less favored institutions, or to teachers' institutes.

2. City Educational Museum: A city educational museum may conceivably be organized either in connection with a school museum, or separately. (*a*) It should serve the teachers-in-training in city normal schools precisely as the educational museum of an institution does its students. (*b*) It should furnish exhibits of pupils' work to illustrate points in theory in the instruction given the city's teaching staff at teachers' meetings and conferences, and especially during changes in the curriculum and the introduction of new lines of work, as manual training, or art. Selected exhibits of pupils' work illustrating definite problems or topics exhibited in some central place, or, if the city is large,

[1] The person who has a general interest in museums will find the articles by G. Brown Goode, formerly in charge of the U. S. National Museum, very suggestive. (See Bibliography.)

moved about from point to point, with accompanying conferences and discussions, would be invaluable in setting up definite, plainly understood standards for teachers and in furnishing motive power to carry them into practice. The clearness and the appeal of the concrete is too little taken advantage of in such situations. In the single problem of bringing new teachers into harmony with the system, illustrative exhibits would be justified. (*c*) A city museum should preserve as records typical samples of pupils' work in the standard subjects, selected so as to be truly representative. A definite number of test papers in arithmetic, composition and spelling, say, written each year and filed away, would in large cities at least have decided value in measuring progress and results, and would furnish material for educational research. (*d*) Such museums, in some cities at least, should emphasize the research work of an educational laboratory. The schools of one American city have had a psychological laboratory. Such research work, whether psychological, hygienic, architectural, educational or otherwise, that concerns education, might in time center about the educational museum of a city. Research so far has been largely a function of the university. There is no basis for belief that it must remain there alone. Attempt to conduct scientific studies of a city's schools from outside, say from a university, are always at a disadvantage; the cities already play at research in part of the functions of the city superintendent of schools; as this office comes to be filled with men trained in scientific methods of investigation, accurate knowledge will be sought regarding the efficiency of school methods, and measurements instead of opinions will dictate policies. Then in the museum-laboratory will be located the controlling mind of a city's educational work. In this respect the museum should in time come to guide the hands of school administration. (*e*) The educational museum should have a very positive and definite relation to the greater public, the taxpayer and the parent. Education is a conscious process—at least the most significant education is; and this consciousness is individual and social. A city museum of education should exhibit all the educational resources of the city, all the schools, institutions for technical training, art and other museums, and all centers for specific or general education. It should be a place where the parent can be informed

of what the schools are doing for his children; where the parent (and the child too) can come for guidance at the critical time when a girl or youth leaves school and goes to work, and yet often might go on to a better education if he knew the facilities his own community offered. The need of a better-informed social consciousness regarding education is urgent in even the smallest community. The taxpayer has a right to know about the schools. The annual school exhibit of American schools contributes to this end once a year now. The museum should by special exhibits inform the public on live educational questions *e.g.*, "What are fads and frills?" "Equal work for equal pay," "What is meant by 'Industrial Education'?" Certainly, through itinerant exhibits shown in various schools in the city with accompanying lectures, conferences, and discussions, the policies of a school board could be cleared of the charge of autocracy. A school museum could thus aid in educating the public regarding education.

3. State Educational Museum: An educational museum organized by a state might advance education in the following ways at least: (*a*) By loaning exhibits to school boards which would give information regarding school architecture and equipment, as photographs of buildings, models of school desks, etc. (*b*) By loaning exhibits which would tend to secure the introduction of desirable subjects of study, as art, manual training, industrial education, etc., or which would give suggestions to local teachers regarding these subjects when introduced; and by similar exhibits loaned to teachers' institutes, normal schools, teachers' association meetings, and shown on other public occasions. (*c*) By displaying fixed exhibits of desirable equipment for teaching with reports available for distribution; especially exploiting new and promising ideas appearing elsewhere and securing their introduction into the schools of the state. (*d*) By arranging exhibits which show the educational resources of the state, for the purpose of informing legislators and the general public always drawn to the capital as a center of interest. (*e*) By forming, in connection with a state educational library, the archive for record of educational work in the state; and to this end, cumulative objective records carefully selected for the light they will throw on educational methods and results should be

preserved as measures of educational progress. (*f*) By encouraging the scientific study of education, if possible by research carried on by its own staff.

4. A National Educational Museum: The possibilities of a national museum of education for the American states is foreshadowed by what has already been said. Whether local museums are established or not, a national museum of education surely should be, and it might gather up many of their functions and add others. It should, together with the library already existing at the Bureau of Education in Washington, come to serve American education in the following ways at least: (*a*) It should furnish a display of selected exhibits illustrating the typical educational institutions of the country, from kindergarten through the university, with regard to aims, organization, equipment for teaching, methods, and results. With especial propriety, series of exhibits could be shown illustrating the place of education in the history of civilization and the development of education in America from the first; and, finally, other objective displays could doubtless be devised which would make plain in a vital way the function of education in a democratic society. Such a museum would attract countless visitors and would help very much to give education consciously its rightful place of high national importance. (*b*) The museum should be a national clearing house of educational information, especially in all that concerns comprehensive views of national education and the exchange of educational ideas between states and between foreign countries and our own. In such a movement as the present influx of the ideas of European industrial training, the Bureau is the partial means of transfer. A national museum of education could specifically aid in this transfer by fixed exhibits in Washington and itinerant exhibits throughout the country, which would illustrate industrial education by photographs, charts and small displays of pupils' work. Sets of lantern slides, presenting the same material for widespread use, would give a more flexible basis of operations. Printed reports there are always in abundance, but there is in question here only means specifically germane to a museum. Such a national museum should be actively united with other educational museums, state and city, in the circulation of exhibits, in gathering material for

scientific study, and in other coöperation. (*c*) The national museum and library of education should advance scientific study by collecting material, printed aand objective, for the use of students and scholars; and by the investigations of its own staff. A single study of school desks (which lies in the museum field) sufficiently thorough, painstaking and unflinching to set standards for the whole country would justify a decade's expenditures for the museum. (*d*) The museum could become a national bureau for standardizing school supplies, building equipment and teaching appliances for the whole country. This function could rest on two premises: (1) education is a function of state government, and states possess the right, though largely unexercised up to the present, of determining such standards; (2) practical considerations demand single standards for the whole country, set by disinterested and competent authority, and these a national museum could furnish subject to approval and enforcement by individual states. This really amounts to a proposal that the consumer shall exercise a control over production by consciously setting standards, which the producer is expected, if not compelled, to meet. Society seems consciously forming a new means of control at this point at present, as illustrated by the recent Federal Pure Food and Drug Law. Whether or not in regard to material goods required for educational purposes, we were ever to go to the point of standards approved and enforced legally, the suggestion is not far afield that a national bureau which would determine standards regarding such points, say, as school furniture and type, paper, illustrations and bindings in school textbooks, would very speedily effect reform and achieve great economic savings in these regards; and this would result even if the program were to rely entirely on the cupidity of competition, and the force of public opinion.

From these considerations of the usefulness of educational museums, we will pass now to the second division: a statement of the principles which seem to underlie their organization.

II. Administrative Principles for Museums of Education

The educational museum may be defined as the institution which conserves objective collections related to the schools and to education, including objective material of all kinds, and as well

text-books, teachers' manuals, and the other books which may be proper museum materials, and which utilizes them for the increase and diffusion of knowledge regarding education. The administration of the educational museum is presented under topics: A, Relationships; B, Types of museums; C, Functions; D, Collections; E, Management.

A. *Relationships of the Educational Museum:* The educational museum has certain relationships to other institutions: the school museum, the educational library, the educational laboratory, the model school, the school exhibit and educational exhibition, and the manufacturers' exhibit; and relations to other points of organized society will be mentioned in Section B, on Types of Museums, below:

1. The school museum exists for the schoolroom; its collections are employed directly in teaching children. The educational museum exists for education as a profession, a science, and a social institution; its collections are to aid in training or improving teachers, in informing the public about education, and in advancing educational science. The contents of the two will agree in part, in that both contain teaching materials and appliances. They differ in this, that the school museum contains only the material means of teaching and these as fully and completely as possible; the educational museum contains these means of teaching, but only in typical illustrative exhibits, not necessarily in complete sets, and in addition it contains all manner of other objective exhibits regarding education (Section D, below). The educational museum and the school museum may properly exist in institutions and in city school systems, as a single organization.

2. The educational library contains all printed material related to education; the educational museum contains all objective collections. The museum, however, includes all printed material more properly treated as exhibits for inspection or as gross data for elaboration, than as books for circulation: namely, collections of school text-books, teaching manuals, archives of school catalogues and reports and perhaps bulky works on school architecture. Besides this printed material which goes into the collections of the museum, the museum should have a working library of its own, to include catalogues of school appliances, text-books, and other materials germane to the museum, and especially all

printed books which will throw light on the museum's collections and aid in their care and utilization. Educational books, as such, are not germane to the museum. An educational library and a museum, it is evident, are supplementary agencies and could best be joined in a single institution; or where either exists alone, it should undertake something of the work of the other.

3. The educational laboratory would undertake advanced investigations in the science of education, and would gather books and objective collections as demanded by the investigations undertaken. It would have no function of public visitation, as the museum, or circulation of its resources, as the library. Its activities are centered in the studies of its staff. A laboratory might be organized as an adjunct to a library, but there would be required a separate staff, as librarians are not trained to research; this "separate research staff" is present in the case of a higher teaching institution, as the college, where the faculty with its scholarly projects takes on this function. A laboratory is an essential part of a modern museum, since in the museum the staff is a scientific investigating body, quite as much as it is a body of curators.

4. The model school or practice school of an institution for training teachers might be called a dynamic museum of education. Together with the educational library and educational museum, it comprises the material means of representing the work of education to prospective teachers, and of the three it is by far the most fundamental and important.

5. The school exhibit, in American schools, is a temporary display of results of pupils' work, together with the school building and its equipment, usually opened to the public for one or more days at the end of the school year. The school exhibition or exposition is a centralized display of such exhibits, chiefly including samples of pupils' work, brought together for a whole city for a longer or a shorter time; or, it is the display of exhibits from a section of a country, a whole country, or from various countries, organized independently or in connection with some industrial exposition. Such educational expositions often include manufacturers' exhibits of teaching appliances, school furniture, text-books, and other materials. In so far as these exhibitions bring together samples of pupils' work, and exhibits of city and

state systems of schools and of institutions, or other displays which have been prepared disinterestedly, so far they do temporarily part of what educational museums do permanently. In so far as manufacturers' exhibits enter in a pure spirit of business competition, the exposition is of a different genus from that of the educational museum. The temporary exhibit has most frequently limited itself to exhibits of pupils' work.

6. Displays of goods made by manufacturers and publishers at expositions or in their own establishments are on a commercial basis. For this reason Dr. Goode has sharply set off expositions from museums (save so far as educational aims and methods of display enter). Educational museums, however, have so far leaned heavily upon manufacturers in securing free samples of their goods as museum exhibits. Museums must not tie their hands by accepting favors; they must be free to criticise, evaluate, reject. Entire freedom of action for a museum can only be assured by an independent financial basis.

B. *Types of Educational Museums.* Educational museums may be classified as to purposes and contents, following Goode's treatment in *The Principles of Museum Administration.* As to purpose, one may distinguish: (1) teachers, (2) institutional, (3) city, (4) state, (5) national and (6) international museums of education. In these cases the "purpose" is derived from the particular external conditions under which a museum exists, as serving a city, a state, an institution, or other definite organization. Some writers on educational museums have classified museums as "practical" or "ideal," according as they attempt practical reforms, as in schoolroom equipment for example, or simply aim to represent education in objective displays. Here, such a distinction would be classed under "functions" (Section C, below). With regard to their contents, one might distinguish those museums of specialized contents, such specialization being either (1) vertical with regard to education, including some limited subject throughout the whole range of the schools; or (2) horizontal, including the entire range of education in some limited stratum; or again, some combination of vertical and horizontal specialization. Examples of vertical cleavage are school exhibits of pupils' work only, a museum of teaching appliances only, special museums for industrial education and for deaf-

mute education, etc.; an example of horizontal cleavage is a museum for elementary education only, or for kindergarten education only.

1. A teachers' educational museum is one organized by a teachers' association, or a special museum association composed of teachers, to be of direct aid to teachers. Such museums are the common type in Germany.

2. An institutional educational museum is one located in a normal school or other institution for the training of teachers and finding its chief purpose in contributing to the professional training of new teachers. In higher institutions such a museum would also aid in advancing research.

3. A city educational museum represents the educational work of a city, aids young teachers in their work of preparation, and assists teachers on the staff, preserves records, advances research, and makes for popular intelligence regarding education. Educational libraries already exist in beginnings at least in many American cities, and upon these might be grafted branches of museum work. Those cities which maintain a bureau of supplies might secure one function of a museum from it, viz., an exhibition of all teaching appliances used in the city, and with these could be added temporary displays of new appliances and historical and comparative exhibits. The city museum should include, where possible, a laboratory for measurement and investigation of local education.

4. A state educational museum represents the educational history and present educational resources of the state in exhibits of interest to visitors; loans circulating exhibits to teachers' institutes, city schools, and normal schools; is a bureau of information for the objective side of school work and a means for introducing new ideas into the schools of the state; preserves records and aids research. A state educational museum might be organized in connection with the office of the state superintendent of education, the state museum of science and art, or the state educational library. The normal relationship would seem to be that of an educational library and educational museum in connection with the state superintendent's office; on the other hand, two states, New Jersey and Louisiana, have made progress with educational museums as part of the general state museum.

5. A national educational museum in a similar way represents national educational history and resources; acts as the agency for furthering information between different parts of the country, and for introducing ideas from foreign countries; aids research; and especially is in position to exert control over the production of material equipment for schools, and to establish standards for them. The proper place for a national educational museum in America is without doubt in Washington in connection with the United States Bureau of Education, where a beginning, as we have seen, has been made. National museums have in several cases been a strong influence in introducing better equipment from abroad,—as the Russian, Japanese, and Greek museums; and in this respect alone an American museum might do valuable service in improving American schools.

6. International museums of education may be formed under some favoring circumstance, to represent an international educational movement, or possibly to provide for international exchange of educational ideas. The former is illustrated by the Froebel Museum at Eisenach; the exchange of information alone can be effected by national museums.

7. Educational museums specialized as regards contents, are illustrated by the former Museum of Industrial Education at Frankfurt, the Museum of Deaf-Mute Education at Leipsic, the Froebel Museum at Eisenach, and the emphasis on elementary education in certain general museums of education.

C. *Functions of the Educational Museum.* The functions of the educational museum concern: (1) teachers in training; (2) teachers in service; (3) persons concerned with the administration of schools; (4) manufacturers and publishers of school materials, equipment and appliances; (5) the general public; and (6) the advancement of the science of education. The manner of its services in these various respects may be briefly suggested.

1. Teachers-in-training: Exhibits of equipment to show the learner the tools of teaching; exhibits illustrating aims, methods and results of schoolroom work, school administration, and other topics, to reinforce the theoretical instruction received.

2. Teachers-in-service: Exhibits to illustrate innovations in equipment and courses of study, and to illuminate principles in teachers' meetings and in study for improvement.

3. School Administrators: Exhibits, investigations, reports of school architecture and building equipment; record keeping and new methods in administration; and especially educational progress.

4. Manufacturers and Publishers: Comparative exhibits of their goods; reports on facts that can be established, thus setting up standards; organizing juries or commissions to judge; suggestions to manufacturers of desirable lines to introduce, as from abroad, or of desirable improvements.

5. The General Public: Inform parents about schools, and aid young people inquiring as to educational opportunities; present disputed questions; represent education in its historical development and its present relations to society; in general, help make education a conscious social process.

6. Advance the science of education by furnishing objective material for study; by studies by its own staff; by publication; by preserving records of researches, historical material, and cumulative matter which can become the subject of future study.

D. *The Collections of Educational Museums.* Besides the limitation that education can be represented directly only in its objective phases, and that symbols must suffice for indicating its personal facts, there is one other limitation at least: education is a process, *i.e.,* something going on, and can only be exhibited by snap-shot pictures as it were, that is by cross-section views of conditions at the beginning or end or at some definite stage in the process. With these limitations in mind, it may be said that the collections of an educational museum comprise objective material related to: (1) the aims of education; (2) school children as the subjects of education; (3) material means of instruction; (4) the school subjects and teaching methods; (5) school activities, (6) the results of instruction; (7) teachers as agents of instruction; (8) the administration of education; (9) the external relations of education.

1. The Aims of Education: In general these can be expressed only through symbols; for example, the aim "to socialize the child" might be given expression in a diagram showing the relation between the child and society; another diagram might be conceived to express the relation of education to the past, present

and future; such symbolic diagrams might help the popular visitor at the museum to get some glimpse of a philosophical view of the work of education in the world; and might not be useless to students. Certain aims of education are practical, *e.g.*, the acquiring of the school arts, or the gaining of skill, and these could be expressed objectively in the results achieved by the children, though such exhibits might be classified under 6 (below).

2. School children, the subjects of education, might be represented by anthropometric records, mental, photographic and metric. This would include phenomena of growth, racial differences, common postures in different school exercises, mental capacities measured at all possible angles, etc. Such records would be gathered and preserved by museums conducting research or aiding research. Popular exhibits would include photographs of school children of various nationalities, and striking facts represented in diagrams.

3. The Material Means of Instruction: These may be divided into: (1) building, grounds and plant; (2) building equipment; (3) teaching equipment. (1) The buildings and grounds, including school gardens, playgrounds, plants for heating, lighting, ventilating and cleaning, may be represented by photographs, drawings, floor and ground plans, and to some extent by models. (2) Building equipment includes the permanent fixtures of a school building, as school desks and seats and other furniture, blackboards, laboratory furniture for science, manual training, and cooking, library and museum cases, etc.; they can be illustrated by samples, catalogues, reports of tests, etc. (3) Teaching equipment includes all movable objects and materials used in instruction, whether books or objects. Such equipment could be classified most advantageously according to school subjects, with a further classification according to place of use in the school. Such an arrangement would bring together all of the teaching material used in geography, such as text-books, maps, globes, charts, pictorial representations, models, materials for expressive work in geography, as sand tables, maps for drawing, etc.; it would further classify this material as far as possible according to the grade or division of the school in which each piece is most useful. A similar classification would hold for appliances and material in arithmetic, history, reading, writing, art, religion,

literature and other fields of instruction. The material could then be studied either by subjects or by grades. Besides actual samples, there should be catalogues, lists of materials used or recommended, reports on tests and experiments, and the literature of teaching appliances.

4. The School Subjects and Methods of Teaching: These would be represented by catalogues, school programs, courses of study, syllabi, text-books, teachers' manuals and other printed matter illustrating the organization of the subject matter of study and the methods of teaching. This material might either go to the library or to the museum, but as crude matter for elaboration it belongs to the museum. Here would belong data for investigations of courses of study, *e.g.,* measures of the time devoted to school subjects and effect on relative efficiency. Actual classroom procedure could be illustrated by photographs; the phonograph and cinematograph have already been successfully utilized for this purpose.

5. School Activities: Constructive and expressive work in materials, gymnasium exercise and play, social life in the school as reflected in athletics and societies, and other procedures in which personal activity or doing is the essence, rather than organization of knowledge or instruction. These could be represented as regards constructive work by the material results achieved; as regards organized activities, by school programs and allotments of time, reports, student year-books, photographs, invitations and program cards, etc. Records by photograph and phonograph would be useful.

6. Results of Instruction: As far as they are material things, —as writing, composition, constructive work,—results can be quite fully represented in the museum. Mental and personal results can of course only be expressed symbolically. As was noted when discussing the utility of such collections, they can be divided into those collected especially as "measures," *i.e.,* the results of tests, which are of the utmost significance for educational science; and "illustrations," or samples of routine work.

7. Teachers: Whatever objective records could be compiled regarding teachers; *e.g.,* their classifications, preparation, salaries, etc., might be expressed graphically in charts and diagrams and

brought to the attention of the public in an educational museum. The sources of such information would be conserved as material for research. Biographical collections regarding individual teachers and famous educators would be classed here.

8. Administration of schools, *i.e.*, schools in regard to their management and inner relations, could be shown in public museums by diagrams illustrating these relationships; by charts of statistical character; by displays of methods of record keeping; etc. Cumulative archives of sources of information, as school reports and catalogues, would be of the greatest importance. These might subdivide as to elementary education, secondary education, training of teachers, professional and technical education, and other administrative groups.

9. External Relations of Schools: The educational institutions of society, the function of each, and the relation of the school to them and to society itself, might conceivably find objective representation in public museums in diagrams or other striking symbolic form.

E. *Management of Educational Museums.* The management of educational museums involves the following conceptions:

1. Financial Support: Except in the case of teachers' or institutional museums, expenses should be met by the public purse, as the museum is an adjunct to the work of the schools. In Germany the city or state commonly subsidizes teachers' museums.

2. Quarters Needed: There should be provided exhibit halls for permanent exhibits, permitting special classification of exhibits in alcoves if not in separate halls; one or more halls for temporary changing exhibits; ample storage for research data and exhibits not on display; laboratories for mechanical, chemical, microscopical and other methods of testing and examination, and for the studies of the staff and the use of scholars; preparing and shipping rooms; offices, and finally one or more lecture rooms. A building to fit the needs of a national or city educational museum would require special designing to meet the purpose required; and the wealth of architectural experience regarding general museums would help determine plans. Parts of school buildings have often been the first home of educational museums. No educational museum as yet occupies a specially designed building.

3. Staff: A paid trained staff is essential, varying from part time of one person in a small museum, to a large number of persons in a national institution. Knowledge of education and of museum administration and technique, of statistical and other methods of research, and of mechanical and other forms of testing, would be required in a large museum, and could be found only in an assemblage of experts in these various lines. The small museum might grow out of an educational library, and employ library methods and staff at first. Many museums have developed through the free services of devoted teachers.

4. Classification of Collections: The collections would fall into two classes,—the exhibition material, and the study material. The former, arranged for public inspection, would include the striking displays and synoptical series, giving summary views of schools and education present and historical in exhibit halls; the latter, which in some museums would soon form the larger and richer part, would include all detailed records and series, reserved in accessible storerooms for scientific study. In making study material available would lie one of the greatest functions of a national museum. All specimens, whether exhibited or in storage, should be fully labeled.

5. Catalogues: Complete card catalogues should render all material available; guide books should be provided for the benefit of visitors, and labels with full, popular information.

6. Publications: Reports of investigations and studies should be published. A periodical journal or organ should be published with news of accessions, reviews, brief reports of studies, tests, etc. Even the smallest museum could command a column in some educational journal, as is the practice of German museums.

7. Conferences and Lectures: The museum should be the seat of conferences, meetings of teachers, and occasional lectures. It should not attempt formal courses of instruction; but only such verbal instruction as can either gain effectiveness from the museum's collections, or add effectiveness to them. Special exhibitions should be arranged in connection with large teachers' meetings at the museum or elsewhere.

8. Bureau of Information: The museum should be administered as a bureau of information for all that concerns education, by answering inquiries made in person or by letter; by circulating

its reports; by gathering information upon mooted questions and forestalling requests; by sending out specially prepared exhibits for display at opportune times throughout the country; by coöperating with state and city educational authorities as need requires. It may be objected that this is at present partially the function of our higher educational offices, as those of the state superintendents of education, and the United States Commissioner of Education. Be it said that to this extent they already fulfill the functions outlined, and it is only proposed, by adding more distinctive museum features to these centers of educational administration, to increase their possibilities of service to American education. The gathering of information would require a cumulative archive for filing away clippings, fugitive printed matter, references and other data under classified headings, giving immediate reference to available information. As occasion demanded, material should pass from this nebulous stage into organized articles for publication.

III. In Conclusion

It should be said distinctly that no one educational museum would attempt so varied a program as that outlined. It represents rather the first plotting of a field as yet unorganized, by many unrecognized: a field that embraces those monuments, records, measures, and objective means and manifestations of education which cannot be conveniently conserved and utilized by library methods. In closing, one cannot better enforce the worth of educational museums than by recalling in a general way the results of experience. Museums of education have proven their utility beyond question in international transfers of educational ideas: the history of the Canadian, Russian and Japanese museums alone would be sufficient to quote. These, it is true, are all cases in which such museums served as a prominent agency in the influx of new ideas into a barren field. The series of German educational museums, however, shows that in a country most advanced in educational resources, local or city museums of education perform a real function in the professional life of teachers. Germany has no national museum of education, but one is sought by German educators; and the history of the Musée Pédagogique in Paris shows that a national museum of

education in an advanced country is a practical undertaking. The most intimate relation is doubtless that between educational museums and the professional training of teachers, and its significance is urged by the experience of the German museums and those at Toronto, Tokyo, and, most recently, Paris.

The beginnings in this country, halting as they are, indicate a real faith in the usefulness of objective collections organized to represent education. The hope of a national museum of education at Washington, long cherished though still deferred, is one index of the situation; the combined school and educational museum of the St. Louis schools, and the projected educational museum of the New York City schools are another; the annual school exhibit common in American schools, permanent exhibitions of local education in certain American cities, and as well the state educational exhibits in a few capital cities, are all indications of beginnings. Perhaps most significant is the real need felt in the universities and other centers for training teachers for collections of objective exhibits which shall assist in making plain the nature, methods, means and results of education, and which shall supply new kinds of material for the advanced study of education. The time seems not far off when education, personal process that it is, will seek out all objective means of making itself and its purposes increasingly evident; when the museum of education, especially when combined with laboratory methods of investigation and when joined with its complementary institution, the library of education, will afford control and insight in the forward educational progress of the country.

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VITA

Benjamin Richard Andrews, born December 31, 1877, Logan, New York. Academic diploma, Mynderse Academy, Seneca Falls, New York, 1894. A. B., Cornell University, 1901; A. M., 1903. Supervisor of Educational Museum of Teachers College, Columbia University, 1903-1906; Teaching Fellow, 1904-1905; Director of Neighborhood Work, Speyer School of Teachers College, 1906-1907; Secretary, Departments of Domestic Economy, Teachers College, 1907. Author of Articles on "Habit" and "Auditory Tests," American Journal of Psychology.

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